

State of Washington REPORT OF EXAMINATION FOR WATER RIGHT APPLICATION **G1-28764**

File No. G1-28764 WAC Doc ID: 6006349

PRIORITY DATE
November 12, 2013

APPLICATION NUMBER G1-28764

MAILING ADDRESS

SITE ADDRESS (IF DIFFERENT) 31827 19th Dr. NW Stanwood, WA 98292

Zachary and Adele Barborinas 15119 Mclean Road Mount Vernon, WA 98273

Quantity A	uthorized for Withd	rawal o	r Diversion	A STATE OF THE STA
	DIVERSION RATE		UNITS	ANNUAL QUANTITY (AF/YR)
	10		GPM	0.39

Purpose						
	WITHDRAWAL OR DIVERSION RATE			ANNUAL QU		
PURPOSE	ADDITIVE	NON- ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	PERIOD OF USE (mm/dd)
Single Domestic Use	10		GPM	0.39		Continuous

Source Location						No. C. Carlot	
WATERBODY	TRIBUTA	RYTO		С	OUNTY	WATER RESO	URCE INVENTORY AREA
Well				Sno	homish		07
SOURCE FACILITY/DEVICE	PARCEL	TWN	RNG	SEC	QQ Q	LATITUDE	LONGITUDE
Well (Well Tag # BAT124)	01075700000400	32N	04E	2	SE	48.282557N	-122.253992W

Datum: WGS84

Place of Use (See Map, Attachment 1)

PARCEL

01075700000400 (Lot 4 of Sun Peak Estates)

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

Parcel 01075700000400 (Lot 4 of Sun Peak Estates) located in Section 2, Township 32N, Range 4E, SE Quarter in Snohomish County.

(see Attachment 2 for a full legal description)

Proposed Works

The system will consist of a well and water distribution system to one home.

Development Schedule

GIN		

COMPLETE PROJECT

PUT WATER TO FULL USE

Started

December 31, 2023

December 31, 2028

Measurement of Water Use

How often must water use be measured?

Monthly

How often must water use data be reported to the

Department of Ecology (Ecology)?

Monthly during the first two years of

water use, then Annually

What volume should be reported?

Total Annual Volume and each monthly

volume

What rate should be reported?

Annual Peak Rate of Withdrawal (gpm)

Provisions

You have demonstrated to Ecology's satisfaction that when your proposed mitigation plan, as conditioned below, is implemented, the proposed withdrawal and use of groundwater from the well on your property will not impair senior water rights, including instream flow rights, or be detrimental to the public interest or welfare. Accordingly, Ecology approves the mitigation plan insofar as it relates to the well on your property, as documented in Exhibits B and C to Sundberg Homes, Inc., et al. Request/Petition for Declaratory Order or alternatively, Approval of Mitigation Plan, dated November 9, 2012, subject to the following conditions:

1. As the proponent of the mitigation plan insofar as it relates to the well on your property, you are responsible for the ongoing commitments of its implementation as long as you own the property. In the event that the property is sold or transferred, all obligations of this mitigation plan are binding on your successors in interest.

- 2. Your average water use shall not exceed 350 gallons of water per day in any month.
- 3. You may not use water from the well on your property to water a lawn or garden or for any similar outdoor use, including any other consumptive use, provided that you may use such water outside to wash a car or other vehicle, to wash a dog or other pet that lives in the house, or for other minor, non-consumptive uses of like kind. Except as otherwise provided in this paragraph, the well on your property must only supply the indoor plumbing system. Connection to the outdoor plumbing system, such as exterior faucets or hose bibs, by the well on your property is prohibited, except for a single faucet or hose bib within 25 feet of a driveway or garage entrance. The prohibition on connection to outdoor plumbing in this paragraph shall remain applicable unless and until another lawful approval is obtained for the withdrawal and use of water from the well on your property that allows you to use water from the well for outdoor watering and to connect the well to outdoor plumbing. This condition does not prohibit the use of stand-alone cisterns, rain barrels, or other rainwater catchment systems for outdoor water use or other consumptive use so long as they are solely supplied by captured rooftop rainwater or water that is trucked in from off-site, you provide at least 30 days advance written notice to Ecology of your intent to use such water before commencing such use, including a description of the type and design of the system you intend to use, and you obtain such approvals, if any, as may be legally required for such use. Ecology may monitor your compliance with the provisions in this paragraph through lawful on-site visits and aerial photography, and will investigate reports of non-compliance by third parties. You will provide Ecology with permission to enter Sun Peaks Estates for such purposes.
- 4. All water use shall be measured with a meter at the wellhead that meets the requirements of WAC 173-173-090 and WAC 173-173-100. The meter shall be installed, operated, and maintained in accordance with WAC 173-173-110 and WAC 173-173-120. During the first two years of water use, you shall deliver monthly water use reports to Ecology by the 15th day of the following month. After the first two years of water use, you shall deliver monthly water use reports to Ecology annually on October 31st of each year (for the period from October 1 of the preceding year through September 30 of the current year). If the property is sold or transferred, the new owner shall provide monthly water use reports to Ecology by the 15th day of the following month during the first two years of water use and thereafter shall deliver monthly water use reports to Ecology annually on October 31st of each year (for the period from October 1 of the preceding year through September 30 of the current year). If monthly or annual water use reporting demonstrates a potential violation of condition number 2 above and water use is not required to cease under condition numbers 8 or 9 below, Ecology shall require monthly reporting until it appears that water use has complied with condition number 2 above for at least 24 consecutive months. Compliance with this provision is subject to inspection by Ecology through lawful on-site visits.

- 5. Your on-site sewage disposal system shall be inspected at a frequency outlined in WAC 246-272A-0270. Copies of the inspection reports shall be provided to Ecology. You will provide Ecology with permission to enter Sun Peaks Estates for such purposes.
- 6. Your sewage disposal shall remain through on-site sewage disposal. If sewage from your property is exported through a sanitary sewer system, the use of water from your well shall cease until an alternative source of mitigation water is found and approved by Ecology.
- 7. Notice of the Sundberg Homes, Inc, et al. Request for Approval of Mitigation Plan shall be incorporated in your property title by recording this Report of Examination in the Snohomish County Auditor's Office. The notice shall include a copy of the Sundberg Homes, Inc, et al. Request for Approval of Mitigation Plan and this Report of Examination.
- 8. Non-compliance with any of these conditions may result in penalties or an administrative order to cease using water per RCW 90.03.600 and 90.03.605.
- 9. Pursuant to WAC 173-503-060(c), if monitoring of this mitigation plan shows the mitigation is not effective, Ecology approval of the mitigation plan shall be suspended and water use shall cease until Ecology approves a new or revised mitigation plan.

The mitigation plan approved for your permit, through this Report of Examination, authorizes only the withdrawal and use of water from the well located on your property, and, except as otherwise provided in condition 3 above, the mitigation plan conditions set forth in this letter apply only to the withdrawal and use of water from that well. All of the mitigation plan conditions set forth in this report shall remain applicable to the withdrawal and use of water from the well located on your property notwithstanding any sale or other transfer or conveyance of the property, unless and until another lawful approval is obtained for the withdrawal and use of water from that well.

Water Use Efficiency

The water right holder is required to maintain efficient water delivery systems and use of up-to-date water conservation practices consistent with RCW 90.03.005.

Proof of Appropriation

The water right holder shall file the notice of Proof of Appropriation of water (under which the certificate of water right is issued) when the permanent distribution system has been constructed and the quantity of water required by the project has been put to full beneficial use. The certificate will reflect the extent of the project perfected within the limitations of the permit. Elements of a proof inspection may include, as appropriate, the source(s), system instantaneous capacity, beneficial use(s), annual quantity, place of use, and satisfaction of provisions.

Schedule and Inspections

Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the project location, and to inspect at reasonable times, records of water use, wells, diversions, measuring devices and associated distribution systems for compliance with water law.

Findings of Facts

Upon reviewing the investigator's report, I find all facts, relevant and material to the subject application, have been thoroughly investigated.

Furthermore, I concur with the investigator and find that: water is available from the source in question; that there will be no impairment of existing rights; that the purpose(s) of use are beneficial; and that there will be no detriment to the public interest or welfare.

Therefore, I ORDER approval of Application No. G1-28764, subject to existing rights and the provisions specified above.

Further, I ORDER that at the time a permit is issued to you under this approval, such permit shall supersede the Department of Ecology's May 1, 2013, letter to you approving your mitigation plan as documented in Exhibits B and C to Sundberg Homes, Inc., et al. *Request/Petition for Declaratory Order or alternatively, Approval of Mitigation Plan*, dated November 9, 2012, and the Department of Ecology's May 1, 2013, letter to you shall be rescinded.

Your Right To Appeal

You have a right to appeal this Order to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do the following within 30 days of the date of receipt of the Order.

- File your appeal and a copy of this Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Order on Ecology in paper form by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Street Addresses	Mailing Addresses
Department of Ecology	Department of Ecology
Attn: Appeals Processing Desk	Attn: Appeals Processing Desk
300 Desmond Drive SE	PO Box 47608
Lacey, WA 98503	Olympia, WA 98504-7608
Pollution Control Hearings Board	Pollution Control Hearings Board
111 Israel RD SW STE 301	PO Box 40903
Tumwater, WA 98501	Olympia, WA 98504-0903

Signed at Bellevue, Washington, this ______ day of _______, 2014

Jacqueline Klug, Section Manager Water Resources Program/NWRO Department of Ecology Investigator's Report

Application for Water Right - Zachary and Adele Barborinas

Water Right Control Number: G1-28764

Investigator: Jerry Liszak

BACKGROUND

The applicant's property is located in the Carpenter-Fisher sub-basin within the Lower Skagit Watershed, also known as Water Resource Inventory Area 3 (WRIA 3). WRIA 3 has an Instream Resources Protection Program rule (WAC 173-503) established in 2001 to protect senior water rights, maintain a healthy ecosystem, and provide limited amounts of water for future uses. Sun Peak Estates (Sun Peak) submitted proposed mitigation plans on behalf of seven landowners, including the applicant, which Washington Department of Ecology (Ecology) modified by allowing for $1/12^{th}$ acre lawn irrigation on each lot while accounting for septic return flow of water into the Fisher basin with water pumped from wells tapping water from an aquifer connected to the adjacent Stillaguamish basin. On May 1, 2013, Ecology approved the mitigation plan and issued seven approval orders to the affected parties owning lots within Sun Peak Estates, including the applicant, with certain conditions, including requiring all the wells to be completed in the deeper Sedimentary Aquifer. The Swinomish Indian Tribal Community (Tribe) appealed Ecology's approvals of the mitigation plans on May 28, 2013.

Subsequent to filing the appeal, the seven Sun Peak lot owners (including the applicant), the Tribe, and Ecology have negotiated a settlement resulting in a mitigation agreement by the parties. The mitigation agreement is implemented through the provisions to this water right set forth on pages 2 through 4 above.

To carry out the settlement, Ecology received a letter from the applicant on November 12, 2913, requesting Ecology to consider the proposed mitigation plan submitted by Sun Peak as an application for a water right permit. Ecology finds that the information in the proposed mitigation plan is sufficient to enable Ecology to consider it as a water right permit application under RCW 90.03.250. Further, Ecology finds that the proposed mitigation plan constitutes a proposed "resource management technique" that is designed to "[offset] the impact of the withdrawal of water proposed in the application for the water right . . . in the same water resource inventory area" under RCW 90.44.055.

Project Description

The applicant intends to withdraw groundwater from a well on its property for single domestic use. The system will consist of a well and water distribution system to the home.

Table 1
Summary of Application No. G1-28764

Attributes Proposed

Applicant Zachary and Adele Barborinas

Application Received	November 12, 2013
Instantaneous Quantity	10 gpm
Source	Well (Well Tag # BAT124)
Point of Withdrawal	SE ¼, Section 2, Township 32 North, Range 4 East, W.M.
Purpose of Use	Single Domestic
Period of Use	Continuous
Place of Use	The southeast quarter of Section 2, Township 32 North, Range 4 East of the Willamette Meridian. Located in Snohomish County, Parcel 01075700000400 (Lot 4 of Sun Peak Estates)

Legal Requirements for Application Processing

The following requirements must be met prior to processing a water right application:

• Public Notice

Notice of this application was published in the Everett Daily Herald on December 7, 2013, and December 14, 2013. No protests were received.

State Environmental Policy Act (SEPA)

A water right application is subject to a SEPA threshold determination (i.e., an evaluation whether there are likely to be significant adverse environmental impacts) if any one of the following conditions are met:

- (a) It is a surface water right application for more than 1 cubic feet per second, unless that project is for agricultural irrigation, in which case the threshold is increased to 50 cubic feet per second, so long as that irrigation project will not receive public subsidies;
- (b) It is a groundwater right application for more than 2,250 gallons per minute;
- (c) It is an application that, in combination with other water right applications for the same project, collectively exceed the amounts above;
- (d) It is a part of a larger proposal that is subject to SEPA for other reasons (e.g., the need to obtain other permits that are not exempt from SEPA);
- (e) It is part of a series of exempt actions that, together, trigger the need to do a threshold determination, as defined under WAC 197-11-305.

The requested water right is part of the Sun Peaks development on a 40-acre parcel comprised of 12 residential lots having individual wells for each home. Because the combined pumping of all

the wells does not meet any of these conditions, it is categorically exempt from SEPA and a threshold determination is not required.

INVESTIGATION

Site Visit/Site Description

On August 3, 2012, John Rose, of Ecology, and Chuck Lindsay, Associated Earth Sciences, Inc., verified the well location, diameter, and Well Tag Number (BAT124). Depth to water measured from the top of the access port was 165.58 feet. Based on a LIDAR surface elevation of 670.68 feet and accounting for a 1.83 foot casing stickup, the static groundwater elevation was 506.93 feet.

Other Rights Appurtenant to the Place of Use

There are no existing water rights appurtenant to the proposed place of use.

Hydrogeology

The ground surface at Sun Peak and the immediate surrounding area is covered by a layer of low permeability glacial till sediments that are underlain at a relatively shallow depth by Chuckanut Formation bedrock. The glacial till sediments are a few tens of feet thick in the vicinity of the site and consist of varying amounts of clay, silt, sand, gravel, cobbles, and boulders. The glacial till is dense, has low permeability, and is considered to act as a confining unit. The Chuckanut Formation consists of alternating intervals of coarse grained sandstone and minor conglomerate and fine grained sandstone and siltstone. Fractured portions of the Chuckanut Formation are referred to as the Sedimentary Aquifer by the USGS (2009). The Sedimentary Aquifer underlies the Sun Peak properties. The aquifer is confined under Sun Peak site and in other areas where it is fully saturated and covered by glacial sediments. It is unconfined in other areas where it crops out. There are also fine grained bedrock intervals within the Sedimentary Aquifer which may produce localized confining conditions. See Attachment 3, *Hydrogeologic Assessment Sun Peaks Estates, Snohomish County*, prepared by Associated Earth Sciences, Inc, dated October 30, 2012.

Well log data indicate regional groundwater flow directions in the Sedimentary Aquifer is generally westerly trending beneath the Sun Peak site, although it is relatively flat and has northern and southern gradient components respectively north and south of the site. Well logs at different completion elevations also suggest there is a downward gradient component. The Sun Peak wells will tap ground water in the Sedimentary Aquifer at an elevation of roughly 500 feet.

Well Drilling

The 12 domestic wells drilled at Sun Peak range in depth from 42 feet to 425 feet and are completed within fractured, water-bearing sedimentary bedrock. The wells all appear to have encountered roughly 25 feet (Lot 11) to 80 feet (Lot 9) of relatively dense, low permeability glacial till overlying sedimentary bedrock. Nine of the onsite wells (Lots 3, 4, 5, 6, 7, 8, 9, 11, and 12) appear to intercept water bearing, fractured sandstone in the Sedimentary Aquifer at depths of greater than 140 feet below the ground surface.

The depths to ground water in eight of the wells ranged between approximately 145 feet (Lot 3) and 177 feet (Lot 12), which correspond to a rough elevation range of 502 feet to 517 feet. The wells on three lots (Lots 1, 2, and 10) appear to intercept localized shallow water-bearing fractures in the upper bedrock unit that begin at depths of roughly 40 to 60 feet. The depth to ground water measured in the shallow wells in August, 2012, ranged from less than 10 feet (Lot 2) to approximately 20 feet (Lot 10), which correspond to a range in elevation from roughly 641 feet to 622 feet. The shallow wells on lots 2 and 10 must be deepened to intercept water from the regional Sedimentary Aquifer at an elevation below 500 feet as a provision for obtaining a water right permit for those lots.

Yields from the onsite wells, as reported by the well drillers on the water well reports, range from approximately 1.5 gallons per minute (gpm) to 35 gpm. However most of these were determined from bailer tests which are not as accurate as pump tests. Yields from the wells completed in the deeper Sedimentary Aquifer are reported as an average of approximately 11 gpm.

Site Hydrogeology

Ecology reviewed the Sun Peaks Estates Mitigation Plan and Sun Peaks Hydrogeologic Assessment with all relevant hydrogeologic data and reports, including comments and information submitted by the Swinomish Indian Tribal Community. While Ecology agrees with the general concept of the mitigation plan, Ecology is modifying some assumptions in the Sun Peaks Estates mitigation plan to factor in information regarding the United States Geologic Survey (USGS) Groundwater Model, water well logs and other geologic reports. Ecology's analysis included information received from the Tribe and its reference to USGS model estimates of groundwater extraction and recharge percentage effects on the Fisher Creek Basin. This analysis indicates that if the wells on lots 2 and 10 of Sun Peak Estates are deepened to intercept the regional Sedimentary Aquifer, if outdoor water use from the wells is prohibited on the Sun Peak Estates lots as described in the provisions above, and if the other conditions set forth in the provisions above are satisfied, return flow from septic systems at the Sun Peaks lots to the Fisher Creek Basin would mitigate the use and withdrawals' groundwater extraction effects on the Fisher Creek Basin. These findings of fact apply to the applicant's proposed use and withdrawal of water.

Four Statutory Tests

This Report of Examination (ROE) evaluates the application based on the information presented above. To approve the application, Ecology must issue written findings of fact and determine that each of the following four requirements of RCW 90.03.290 has been satisfied:

- 1. The proposed appropriation would be put to a beneficial use;
- 2. Water is available for appropriation;
- 3. The proposed appropriation would not impair existing water rights; and
- 4. The proposed appropriation would not be detrimental to the public welfare.

Beneficial Use

The Water Resources Act of 1971 (RCW 90.54.020(1) defines beneficial uses of water. The application requests water for single domestic use. Single domestic use is explicitly listed as a beneficial use under RCW 90.54.020(1); therefore, the proposed use of water is a beneficial use.

Availability

For water to be available for appropriation, it must be both physically and legally available.

Physical Availability

For water to be physically available for appropriation there must be ground or surface water present in quantities and quality and on a sufficiently frequent basis to provide a reasonably reliable source for the requested beneficial use or uses. In addition, the following factors are considered:

- Volume of water represented by senior water rights, including federal or tribal reserved rights or claims;
- Water right claims registered under Chapter 90.14 RCW;
- Groundwater uses established in accordance with Chapter 90.44 RCW, including those that are exempt from the requirement to obtain a permit; and
- Potential riparian water rights, including non-diversionary stock water.
- Lack of data indicating water usage can also be a consideration in determining water availability, if the department cannot ascertain the extent to which existing rights are consistently utilized and cannot affirmatively find that water is available for further appropriation.

The bailer testing performed on the proposed point of withdrawal showed that water is available from the applicants well completed within the Sedimentary Aquifer.

Legal Availability

To determine whether water to be legally available for appropriation, the following factors are considered:

- Regional water management plans which may specifically close certain water bodies to further appropriation.
- Existing rights which may already appropriate physically available water.
- Fisheries and other instream uses (e.g., recreation and navigation). Instream needs, including instream and base flows set by regulation. Water is not available for out of stream uses where further reducing the flow level of surface water would be detrimental to existing fishery resources.
- Ecology may deny an application for a new appropriation in a drainage where adjudicated rights exceed the average low flow supply, even if the prior rights are not presently being exercised. Water would not become available for appropriation until existing rights are relinquished for non-use by state proceedings.

Water in the Fisher Creek sub-basin is not legally available for new consumptive uses in the absence of approved mitigation measures. However, given that water will be added to the Fisher Creek sub-basin under the conditions of the mitigation plan, as modified by Ecology and agreed to by the Tribe and the applicant, there will be a net benefit to the Fisher Creek sub-basin. A significant proportion of the water will come from the Stillaguamish Basin which will be delivered into the Fisher Creek sub-basin via septic recharge. Water Resource Inventory Area (WRIA) 5 - Stillaguamish River basin has a reservation system for permit-exempt domestic wells (WAC 173-505-090) which accounts for water use at a rate of 350 gallons per day (gpd) and limits outdoor water use to the watering of 1/12 acre for domestic exempt wells. Reservation water is still available in the Stillaguamish River basin. The 350 gpd can be reduced to 175 gpd if the residence is served by an on-site septic system located within the same WRIA. However, in this situation the water will be transported into the adjacent WRIA. Therefore, the Stillaguamish domestic reservation shall be debited 350 gpd on approval of this water right. The maximum potential negative impact to groundwater/surface water in the Stillaguamish Basin is 350 gpd per well, which is equal to a maximum annual total of 0.39 acre-feet per year (ac-ft/yr). See Attachment 4, Hydrogeologic Assessment and Mitigation Plan Sun Peaks Estates, Snohomish County, prepared by Associated Earth Sciences, Inc., dated October 30, 2012.

Potential for Impairment

Impairment is an adverse impact on the physical availability of water for a beneficial use that is entitled to protection. A water right application may not be approved if it would:

- Interrupt or interfere with the availability of water to an adequately constructed groundwater withdrawal facility of an existing right. An adequately constructed groundwater withdrawal facility is one that (a) is constructed in compliance with well construction requirements and (b) fully penetrates the saturated zone of an aquifer or withdraws water from a reasonable and feasible pumping lift.
- Interrupt or interfere with the availability of water at the authorized point of diversion of
 a surface water right. A surface water right conditioned with instream flows may be
 impaired if a proposed use or change would cause the flow of the stream to fall to or
 below the instream flow more frequently or for a longer duration than was previously the
 case.
- Interrupt or interfere with the flow of water allocated by rule, water rights, or court decree to instream flows.
- Degrade the water quality of the source to the point that the water is unsuitable for beneficial use by existing users (e.g., via sea water intrusion).

This applicant's well is completed in the Sedimentary Aquifer and will withdraw water hydraulically connected to both the Stillaguamish Basin and the Fisher sub-basin. This will provide more groundwater recharge to the Fisher Creek sub-basin than withdrawn from it by virtue of septic return flows mentioned above as long as the applicant and the applicant's successors-in-interest comply with Ecology's modifications of the applicant's mitigation plan as

set forth in the provisions above and as agreed to by the Tribe and the applicant. This will ensure non-impairment of instream flows in the Skagit Basin.

RCW 90.44.055 provides for water resource management techniques to increase water supply via recharge of groundwater as a means of making water available or otherwise offsetting the impact of a withdrawal of groundwater proposed in an application for water right. The increase of groundwater recharge in the Fisher Creek sub-basin will ensure that there is no reduction in water flowing from the Fisher sub-basin into the Skagit Basin. There will also be no impairment in the Stillaguamish Basin since water will be debited 350 gpd from the Stillaguamish domestic reservation, as discussed above.

Public Welfare

There will be no detriment to the public interest or welfare, because water from the Stillaguamish Basin domestic reservation will be tapped and debited, and septic recharge in the Fisher Creek sub-basin will ensure that flows will not be reduced in the Skagit Basin. This will ensure that there will be no negative impacts on the public interest and welfare including instream values, and fish populations.

Consideration of Protests and Comments

In response to public notice of this application, the Department of Ecology received no protests regarding this application for groundwater.

CONCLUSIONS

The conclusions based on the above investigation are as follows:

- 1. The proposed appropriation for single domestic use is a beneficial use of water;
- 2. The requested 10 gpm and 0.39 acre-feet per year is available for appropriation;
- 3. The new appropriation will not impair senior water rights; and
- 4. The new appropriation will not be detrimental to the public welfare.

RECOMMENDATION

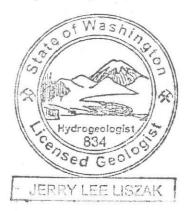
Based on the information presented above, the authors recommend that the request to appropriate groundwater be approved in the amounts described, limited, and provisioned on page 2 through 4 of this report.

Report by:

1/15/2014

Jerry Liszak, L.G., L.HG. - Water Resources Program

Date



If you need this publication in an alternate format, please call Water Resources Program at 360 407-6600. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

REFERENCES

AESI, 2012, Hydrogeologic Assessment and Mitigation Plan Sun Peak Estates, Snohomish County, Washington, Charles Lindsay, Associated Earth Scientists. Inc., October 30, 2012

EES, 2002. Skagit River Basin; Return Flows to Aquifer- Exempt Wells. Draft Memorandum, Dave Moldal, Economic and Engineering Services, Inc. Olympia, Washington. December 10, 2002

Johnson, K.H., and Savoca, M.E., 2010, Numerical simulation of the groundwater-flow system in tributary subbasins and vicinity, lower Skagit River basin, Skagit and Snohomish Counties, Washington: U.S. Geological Survey Scientific Investigations Report 2010-5184, 78 p.

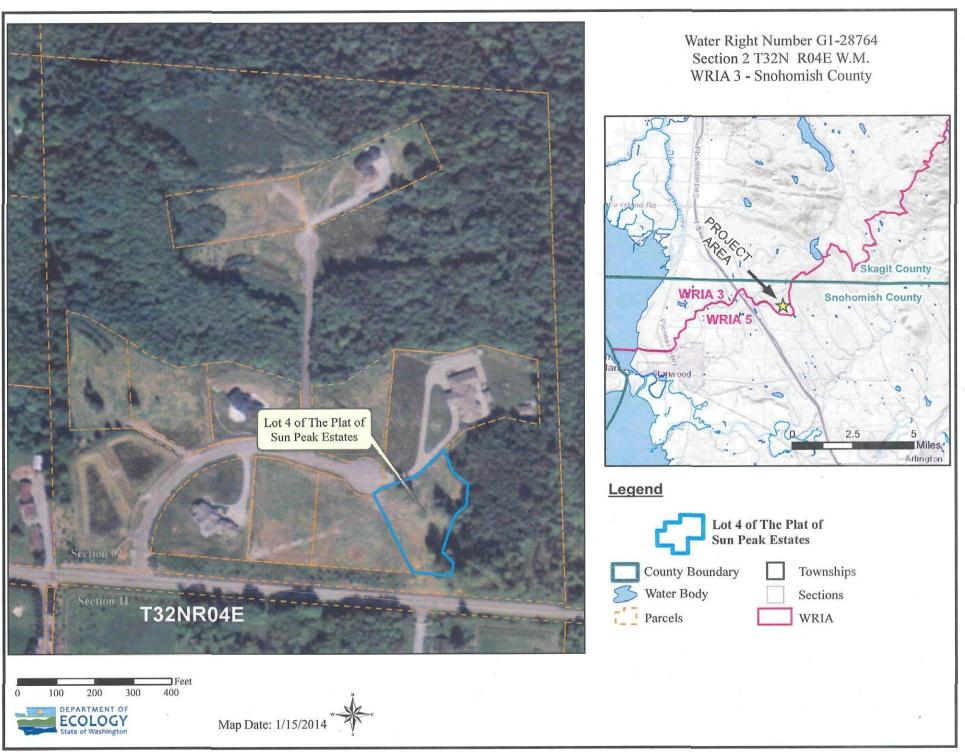
Keta Waters, 2012, Review of "Hydrogeologic Assessment. Sun Peak Estates. Snohomish County, Washington" prepared by Associated Earth Scientists. Inc., October 30, 2012.

Memorandum, Joel Massmann, March 1, 2013

Liszak, J.L., April 23, 2013, Sun Peak Estates Water Balance for 1/12th acre irrigation

PGG, 2002. City of Sequim 2001 Hydrologic Monitoring Report, Clallam County, Washington, prepared by the Pacific Groundwater Group for City of Sequim, May 16, 2002.

Savoca, M.E., Johnson, K.H., Sumioka, S.S., Olsen, T.D., Fasser, E.T., and Huffinan, R.L., 2009, *Hydrogeologic framework, groundwater movement, and water budget in tributary subbasins and vicinity, lower Skagit River basin, Skagit and Snohomish Counties, Washington:* U.S. Geological Survey Scientific Investigations Report 2009-5270, 46 p.



Attachment 2

Lot 4 (Parcel 01075700000400)

Lot 4 of the Plat of Sun Peak Estates being a rural cluster sub division Township 32 North, Range 4 East, SW ¼ SE ¼ of section 2, Willamette Meridian, Auditor's File No. 200706065234 situated within Snohomish County, Washington. Described as follows:

Beginning at the S ½ corner of Section 2, Township 32 North, Range 4 East, W.M., thence S 85°44′53″ E 633.39 ft, thence N 4°15′07″ E 326.56 ft, thence S 71°51′25″ E 63.69 ft, thence along a curve to the right having a central angle of 48°11′23″, a radius of 25 ft, and an arc length of 21.03 ft, thence along a curve to the left having a central angle of 92°48′31″, a radius of 50 ft, and an arc length of 80.99 ft to the true point of beginning, thence along a curve to the left having a central angle of 23°34′41″, a radius of 50 ft, and an arc length of 20.58 ft, thence N 70°41′47″ E 103.69 ft, thence N 45°19′47″ E 98.38 ft, thence S 21°26′41″ E 63.15 ft, thence S 50°19′38″ E 51.07 ft, thence S 4°20′15″ W 54.61 ft, thence S 47°54′14″ W 34.33 ft, thence S 25°00′00″ W 37.97 ft, thence S 17°20′02″ W 69.02 ft, then S 45°00′00″ E 41.10 ft, thence S 10°35′16″ W 33.24 ft, thence N 85°44′53″ W 100 ft, thence N 26°28′33″ W 231.67 ft to the true point of beginning.

Associated Earth Sciences, Inc.











Attachment 3 & 4

Serving the Pacific Northwest Since 1981

October 30, 2012 Project No. EH110368A

Mr. Zachary J. Barborinas 15119 McLean Road Mount Vernon, Washington 98273

Mr. Peter Ojala Carson Law Group P.S. 3202 Hoyt Avenue Everett, Washington 98201-4311

Subject:

FINAL REPORT

Hydrogeologic Assessment and Mitigation Plan

Sun Peaks Estates

Snohomish County, Washington

INTRODUCTION AND BACKGROUND

This report summarizes the results of a hydrogeologic assessment completed by Associated Earth Sciences, Inc. (AESI) in support of a mitigation plan for selected lots in the Sun Peaks Estates, which is situated in the Fisher Creek subbasin of Skagit/Snohomish Counties. The general location of the Sun Peaks Estates is shown on the "Location Map," Figure 1. The layout of the site is shown on the Plat Map, Figure 2.

Sun Peaks Estates is roughly 40-acres of property that includes 12 residential lots located just north of 316th Street NW and approximately 1,300 feet east of English Grade Road in northwest Snohomish County. The ground surface of the property generally slopes downward to the southwest and ranges in elevation between roughly 600 feet and 680 feet above mean sea level. A small seasonal tributary to Fisher Creek bisects the site in an approximate east-west direction (Figure 2). All elevations referenced in this report are relative to mean sea level (datum NAVD88) unless otherwise noted.

The Sun Peaks Estates is comprised of 12 residential lots (Figure 2). However, a single home has been built on Lots 5 and 6; therefore, there are a total of 11 buildable lots at the site. Individual single-family domestic wells have been drilled on each of the original residential lots. There are currently occupied homes located on Lot 1, Lots 5/6, Lot 8, and Lot 12.

The Fisher-Carpenter Creek subbasins were closed in 2010 to the drilling of single-family domestic wells under the Skagit Instream Flow Rule amendments reservation system adopted by

the Washington State Department of Ecology (Ecology) in 2006, unless the well's potential impact to surface water flow in either Fisher Creek or Carpenter Creek is mitigated. The 2006 Skagit Instream Flow Rule amendments reservation system established the maximum total daily individual residential water use at 350 gallons per day (gpd) with outdoor water use being limited to the watering of an outdoor area not to exceed a total of ½acre. Of the 350 gpd total residential use, 175 gpd is assumed to be septic return flow, and the remaining 175 gpd is consumptive use.

Due to the closure of the Fisher Creek subbasin, the owners of seven of the Sun Peaks Estates lots (Lots 2, 3, 4, 7, 9, 10, and 11, Figure 2) are currently being denied the use of their wells for single-family residential purposes (domestic exempt) by Ecology under the assumption the wells intercept ground water that provides recharge to Fisher Creek and that their use results in a negative impact to and a diminishment of flow in the stream. These seven property owners are currently appellants (referred to herein as "appellants") in an appeal before the Pollution Control Hearings Board over the closure of the subbasin, and other related issues. The remaining wells on Lots 1, 5, 6, 8, and 12 were installed and put to beneficial use prior to 2010 and are not subject to the current subbasin closure.

The purpose of our services was to evaluate the hydrogeology of the Sun Peaks Estates area, evaluate potential impacts to source water, and to ascertain if the use of the appellants' wells will result in a negative impact to or a diminishment of a source or flow in Fisher Creek or if mitigation is an option.

GEOLOGIC AND HYDROGEOLOGIC SETTING

General

The U.S. Geological Survey (USGS) recently completed a comprehensive and detailed geologic/hydrogeologic evaluation of the lower Skagit River basin, including the Fisher and Carpenter Creek subbasins, for the Skagit County Public Works Department (Skagit County), Skagit County Public Utility District No. 1 (District), and Ecology. Details of the USGS study are presented in Scientific Investigations Report (SIR) 2009-5270 titled *Hydrogeologic Framework, Groundwater Movement, and Water Budget in Tributary Subbasins and Vicinity, Lower Skagit River Basin, Skagit and Snohomish Counties, Washington.* The USGS also developed a detailed numerical ground water flow model of a large portion of the lower Skagit River drainage, including Carpenter and Fisher Creek subbasins. Details of the USGS ground water flow model are presented in SIR 2010-5184 titled *Numerical Simulation of the Groundwater-Flow System in Tributary Subbasins and Vicinity, Lower Skagit River Basin, Skagit and Snohomish Counties, Washington.*

The following is a summary of the regional geologic/hydrogeologic setting of the area in the immediate vicinity of the Sun Peaks Estates, as presented in the above-referenced USGS reports. Pertinent geologic and hydrogeologic details of the area in the vicinity of the Sun Peaks Estates, including contours of ground water elevations in the bedrock aquifer that underlies the project site, are also shown on Figure 1. A generalized geologic cross section of the Sun Peaks Estates site, based on subsurface conditions presented on water well reports for the on-site wells and the in-field generated data, is presented on the "Geologic Cross Section A - A", Figure 3.

- The ground surface at the Sun Peaks Estates and in the immediate surrounding area is covered by a layer of low-permeability glacial till sediments that are underlain at a relatively shallow depth by Chuckanut Formation bedrock.
- The glacial till sediments appear to be a few tens of feet thick in the vicinity of the site and generally consist of various amounts of clay, silt, sand, gravel, cobbles, and boulders. The till sediments are dense, have a low permeability, and are considered to act as a confining unit, not an aquifer, by the USGS (SIR 2009-5270).
- The Chuckanut Formation consists of alternating intervals of coarse-grained (sandstone and minor conglomerate) and fine-grained (mudstone, fine-grained sandstone, and siltstone) deposits. The USGS reports indicate that fractured/permeable portions of the Chuckanut Formation form a "Sedimentary Aquifer (OEc)."
- The Sedimentary Aquifer present within the fractured/permeable portions of the Chuckanut Formation deposits underlies the Sun Peaks Estates. The aquifer is unconfined where it crops out and can be confined in areas where it is fully saturated and covered by glacial sediments. Also fine-grained bedrock intervals within the Sedimentary Aquifer may produce local confined conditions.
- The USGS field-located 10 wells completed within the Sedimentary Aquifer located within roughly 3 miles of the Sun Peaks Estates site, determined their approximate ground surface elevations using Light Detection and Ranging (LiDAR) information, and field-measured depths to water in the wells on several occasions (SIR 2009-5270). Copies of water well reports for the 10 field-located USGS wells are included in Attachment A.
- The ground water elevation data obtained from the USGS wells was used to develop contours of ground water elevations in the Sedimentary Aquifer, as shown on Figure 1. The USGS regional ground water data indicates the following:
 - i. The regional ground water flow direction in the Sedimentary Aquifer beneath the

- Sun Peaks Estates site is to the south towards the Stillaguamish River basin (Figure 1).
- ii. The depth to ground water in the USGS monitored wells ranged from approximately 24 feet to over 140 feet below the ground surface (Attachment A). All depths referenced in this report are relative to ground surface unless otherwise noted.
- iii. Ground water in the Sedimentary Aquifer is at an elevation of roughly 500 feet above mean sea level beneath the Sun Peaks Estates (Figure 1, SIR 2009-5270).

Site-Specific Geology and Hydrogeology

The 12 domestic wells drilled at Sun Peaks Estates range in depth from 42 feet to 425 feet and are completed within fractured, water-bearing sedimentary bedrock. A representative of AESI and John Rose of Ecology field-located and measured the depths to ground water in 11 of the 12 on-site wells on August 3, 2012. They were unable to locate the well on Lot 10 during their August 3 site activities. The specific location of each wellhead was determined using a handheld near-survey grade Trimble GeoXT GPS with a hurricane antenna provided by Ecology. The depths to water were measured using an Olympic well probe model 500. A representative of AESI returned to the site on August 8 and field-located the well on Lot 10. The depth to ground water in the Lot 10 well was measured using a Waterline well probe and the approximate location of the wellhead was determined using a hand-held Garmin GPS unit and a review of historical aerial photographs.

The ground surface elevation at each wellhead was determined from LiDAR elevation information (Snohomish County 2003 flight) and the field-generated GPS location data. The ground surface elevation, measured casing stickup, and depth to ground water data were used to estimate the elevation of ground water in each well. A summary of well construction, location, and water level details for the on-site wells is presented in Table 1. Copies of the water well reports for each well is included in Attachment A. The approximate location of each well at the Sun Peaks Estates site is shown on Figure 2.

The wells completed at the Sun Peaks Estates site all appear to have encountered roughly 25 feet (Lot 11) to 80 feet (Lot 9) of relatively dense, low-permeability glacial till overlying sedimentary bedrock (Attachment A, Figure 3). Ground water was not indicated as being encountered in the overlying glacial till sediments at the site by the water well drillers (Attachment A). The bedrock consists of a fine-grained upper sediment package that extended to depths of roughly 120 feet to 170 feet and was described as consisting of fine-grained sandstone, shale, and siltstone (Attachment A, Figure 3). The upper bedrock unit is underlain by what was typically described as gray coarse sandstone with minor layers of shale, siltstone,

and fine-grained sandstone, which is referred to as the lower bedrock unit for the purposes of this report (Attachment A, Figure 3). The on-site wells were constructed with 6-inch-diameter steel casing that was extended through the glacial till sediments and a minimum of 3 feet into the top of the underlying bedrock with the exception of the Lot 1 well, where the 6-inch casing only penetrated the bedrock approximately 1 foot (Attachment A). PVC liners (4.5- to 5.0-inch-diameter) were installed to the completion depths of the wells located on Lots 3 through 12 (Attachment A, Figure 3). The PVC liners were slotted to allow the entry of ground water through the open areas (Attachment A, Table 1). The wells installed on Lots 1 and 2 were completed as open-end casing without PVC liners.

Nine of the on-site wells (Lots 3, 4, 5, 6, 7, 8, 9, 11, and 12) appear to intercept water-bearing, fractured sandstone in the lower bedrock unit at depths of greater than 140 feet below the ground surface (Table 1, Figure 3). The depths to ground water in eight of the wells ranged between approximately 145 feet (Lot 3) and 177 feet (Lot 12), which correspond to a rough elevation range of 502 feet to 517 feet above mean sea level (Table 1, Figure 3). The ground water elevation measured in the well located on Lot 9 was approximately 580 feet above mean sea level (Table 1). With the exception of the Lot 9 well, the range of ground water elevations in the wells completed in the lower bedrock unit at the Sun Peaks Estates site correspond closely to the USGS estimated elevation of 500 feet for the Sedimentary Aquifer at the site (Figures 1 and 3, Table 1).

The wells on the remaining three lots (Lots 1, 2, and 10) appear to intercept localized shallow water-bearing fractures in the upper bedrock unit that begin at depths of roughly 40 to 60 feet (Table 1, Figure 3). The depth to ground water measured in the shallow wells in August 2012 ranged from less than 10 feet (Lot 2) to approximately 20 feet (Lot 10), which correspond to a range in elevation from roughly 641 feet to 622 feet above mean sea level (Table 1, Figure 3).

Yields from the on-site wells, as reported by the well drillers on the water well reports, range from approximately 1.5 gallons per minute (gpm) to 35 gpm and appear to be adequate for single-family domestic use (Attachment A). Reported yields for the three wells completed in the upper bedrock unit are an average of roughly 3.5 gpm. Yields from the wells completed in the lower bedrock unit are reported as an average of approximately 11 gpm (Attachment A).

Table 1 Summary of Well Location and Ground Water Elevation Data Sun Peaks Estates - Snohomish County

						Ground	Ground Elevation				Depth			
Lot No.	Unique ID	Date	Owner	Time	Latitude ¹	Longitude ¹	GPS ¹	LiDAR ²	Well Depth	Open Area	Casing Stickup	to Water	Static Elevation ³	Comments
1	BAT220	8/3/12	Yencich	15:25	48,282636	122.256164	639.99	647.08	48	46-48	1.17	15,42	632.83	House well - recent pumping
2	BAT494	8/3/12	Stonnell	15:15	48.282631	122.256028	642.45	648.06	42	41.5-42	1.33	8.67	640.72	
3	BAT493	8/3/12	Rosenberg	15:00	48.282621	122.255359	648.18	655.63	205	60-205	1.92	144.58	512.97	
4	BAT124	8/3/12	Barborinas	14:15	48.282557	122.253992	667.45	670.68	425	325-425	1.83	165.58	506.93	
5	BAT246	8/3/12	Burton	16:30	48.283683	122.253234	671.65	674.89	240	140-240	1.25	168.33	507.81	House well
6	BAT247	8/3/12	Burton	16:00	48.284099	122.254550	645.86	661.14	207	147-207	2.67	156.67	507.14	Irrigation well - recent pumping
7	BAT248	8/3/12	Halgren	17:30	48.284086	122.254642	671.43	660.24	226	155-226	2.75	146.08	516.91	
8	BAT229	8/3/12	Bennett	15:50	48.283866	122.255625	641.17	650.59	200	140-160	0.83	149.42	502.00	House well
9	BAT234	8/3/12	Bateman	15:35	48.283502	122.256587	644.02	650.33	200	140-200	1.50	72.50	579.33	
10	BAT466	8/8/12	Spane⁴	18:00	48.284228	122.258039		639.59	80	40-80	1.70	19.62	621.67	
11	BAT492	8/3/12	Sundberg	17:00	48.285272	122.255883	676.99	679.19	223	160-223	3.00	176,50	505.69	
12	BAT491	8/3/12	Givens	17:20	48.285245	122.255573	678.22	681.64	276	170-176	0.92	175.50	507.06	House well

 $^{^1}$ Latitude, longitude, and elevation determined using Ecology GPS unit on August 3, 2012, NAVD88 datum. 2 LiDAR data from NW Snohomish County 2003 flight, NAVD88 datum.

³ Ground water elevations based on LiDAR ground surface elevations plus field-measured casing stickup.

⁴ Location determined using a hand-held GPS unit and check using Google Earth aerial photographs.

DISCUSSION AND CONCLUSIONS

General

The regional USGS study and site-specific data indicate that Sun Peaks Estates is underlain by what the USGS refers to as the Sedimentary Aquifer which is located within fractured portions of the Chuckanut Formation bedrock at depths greater than approximately 140 feet. The Sedimentary Aquifer is separated from the ground surface at the site by several 10s of feet of dense, low-permeability glacial till and/or un-fractured low-permeability bedrock. The site-specific data does not indicate that there are water-bearing zones in the glacial till or that the Sedimentary Aquifer is in hydraulic continuity with surface waters in the immediate vicinity of the site. This lack of hydraulic continuity is further demonstrated by the seasonal nature of the tributary stream that flows through the Sun Peaks Estates site. AESI's on-site observations and discussions with local landowners indicates that the seasonal stream channel which bisects the Sun Peaks Estates is generally dry (no surface water or ground water discharge/seepage) between roughly July and October of each year. As discussed below, ground water in the Sedimentary Aquifer immediately beneath Sun Peaks Estates does not appear to be a source of water to Fisher Creek or the Fisher-Carpenter Creek subbasin.

Nine of the on-site wells (Lots 3, 4, 5, 6, 7, 8, 9, 11, and 12), including five of the appellant wells (Lots 3, 4, 7, 9, and 11), are completed at depths greater than 140 feet and appear to be intercepting water from the regional Sedimentary Aquifer. The water level elevations in eight of these wells correspond very well with the ground water elevations in the regional Sedimentary Aquifer system described by the USGS (Figure 1, Table 1). The water level in the well located on Lot 9 is approximately 60 feet higher in elevation than the water levels in the other eight wells (Figure 3). It is possible that ground water from a higher fracture zone in the bedrock is migrating down the outside of the 6-inch-diameter steel casing and influencing the ground water level in this well. However, it should be noted that the ground water in the well on Lot 9 is hydraulically separated from the ground surface by over 70 feet of low-permeability bedrock and glacial till (Figure 3).

The data presented in the USGS reports indicate that the regional ground water flow direction in the Sedimentary Aquifer beneath the Sun Peaks Estates is toward the south. Therefore, removing ground water from the five wells (Lots 3, 4, 7, 9, and 11) completed in the Sedimentary Aquifer beneath the Sun Peaks Estates site at the relatively low rate of 350 gpd per well could ultimately cause a potential decrease in ground water throughflow to the Stillaguamish River basin; however, these withdrawals would not have a negative impact on ground water quantity or flow direction in the Fisher Creek subbasin, or result in a diminishment of surface water flow in Fisher Creek. The Sedimentary Aquifer beneath Sun Peaks Estates is not a source of water to Fisher Creek or the Fisher-Carpenter Creek subbasin.

There are three shallow on-site wells (Lots 1, 2, and 10), including two appellant wells (Lots 2 and 10), that appear to be intercepting relatively shallow localized, water-bearing fracture zones within the upper portion of the Chuckanut Formation. The shallow fracture system appears to be hydraulically separated from the ground surface by a few 10s of feet of low-permeability glacial till sediments. Water level information for the three shallow wells indicate confined conditions with static water levels near and, in one well (Lot 1), seasonally above the ground surface. The direction of ground water flow in the shallow fracture system cannot be determined based on the limited available data. Although the shallow fracture system appears to be hydraulically separated from surface water sources in the immediate vicinity of Sun Peaks Estates, it cannot be determined if a portion of the ground water flowing through the upper fracture system ultimately provides recharge to Fisher Creek. Furthermore, it cannot be determined without further study if withdrawals from the three shallow wells would negatively impact ground water flow within the Fisher-Carpenter Creek subbasin or diminish surface water flow in Fisher Creek.

MITIGATION PLAN

No Negative Net Impact from Sun Peaks Estates Appellant Wells

Five of the seven appellant wells (Lots 3, 4, 7, 9, and 11) will withdraw water from the Stillaguamish River basin, and ultimately provide ground water recharge to the Fisher-Carpenter Creek subbasin by virtue of their septic systems and possible outdoor uses. As only two of the seven appellant wells (Lots 2 and 10) could potentially decrease ground water recharge in the Fisher-Carpenter Creek subbasin, with the remaining five wells adding water to the subbasin, there is no overall potential negative net impact to ground water recharge/surface water flow in the Fisher Creek subbasin from the combined use of the appellant wells at the Sun Peaks Estates. The concept of no negative impact to or diminishment of ground water flow/surface water recharge in the Fisher-Carpenter Creek subbasin from the combined use of the seven appellant wells is discussed in detail below.

Five of the seven appellants (owners of Lots 3, 4, 7, 9, and 11) have wells that are completed in the deep regionally extensive Sedimentary Aquifer. These wells are intercepting ground water that provides recharge to the Stillaguamish River basin and do not appear to have hydraulic continuity with the Fisher-Carpenter Creek subbasin. Water Resource Inventory Area (WRIA) 5 — Stillaguamish River basin reservation system for permit-exempt domestic wells (WAC 173-505-090) accounts for water use at a rate of 350 gpd and limits outdoor water use to the watering of 1/12 acre for domestic exempt wells, as more particularly stated in the rule. The 350 gpd can be reduced to 175 gpd if the residence is served by an on-site septic system located in the same WRIA, which is not the case for the appellant's properties at Sun Peaks Estates. Therefore, the maximum potential negative impact to ground water recharge/surface water in the Stillaguamish River basin is 350 gpd per well, which is equal to an annual total of approximately 0.39 acre-feet (ac-ft) per well or a maximum of 1.95 ac-ft for the five wells.

Unmitigated reservation water is still available in the Stillaguamish River basin. Debit water for the total potential impact of 1.95 ac-ft per year from the use of the wells on Lots 3, 4, 7, 9, and 11 needs be accounted for in the Stillaguamish River reservation.

As previously discussed, the Stillaguamish River basin reservation system assumes that of the 350 gpd removed from a well, 175 gpd is returned to the hydrogeologic system as septic return flow. Therefore, the five wells located on Lots 3, 4, 7, 9, and 11 will be providing a total of 875 gpd (0.98 ac-ft per year) of additional ground water recharge to the Fisher-Carpenter Creek subbasin that was obtained from the Stillaguamish River basin.

Two of the seven appellant wells (Lots 2 and 10) are completed in relatively shallow localized fracture zones with depths to static water that are less than roughly 50 feet. Due to their shallow completion depths and the relatively shallow depth to ground water, the use of these wells, without drilling them deeper, has a slight potential to negatively impact ground water recharge in the Fisher-Carpenter Creek subbasin and diminish surface water flow in Fisher Creek. The maximum potential impact to ground and/or surface water in the Fisher-Carpenter Creek subbasin from the use of these wells is 175 gpd per lot, which is a total of 0.39 ac-ft per year.

In summary, the use of the wells completed on Lots 3, 4, 7, 9, and 11 will result in the import of an additional 0.98 ac-ft per year of ground water recharge from the Stillaguamish River basin to the Fisher-Carpenter Creek subbasin. The use of the wells on Lots 2 and 10 could result in a decrease in ground water recharge in the Fisher-Carpenter Creek subbasin a maximum of 0.39 ac-ft per year. Therefore, the combined impact resulting from the use of the seven appellant wells is a net positive increase in ground water recharge to the Fisher-Carpenter Creek subbasin of 0.59 ac-ft per year. The importation of water from the Stillaguamish River basin from Lots 3, 4, 7, 9, and 11 totally offsets the maximum potential impact from the use of the wells located on Lots 2 and 10.

Accordingly, consistent with WAC 173-505-060(1)(c) requirements of monitoring and reporting, Lots 3, 4, 7, 9 and 11 will comply with the necessary and lawful conditions stated in WAC 173-505-090(2), and Lots 2 and 10 will also install a metering device consistent with Lots 3, 4, 7, 9 and 11, for reporting and monitoring. Pursuant to WAC 173-503-060(1)(c), for reporting and quality assurance/control, the Lots will report their metered use annually to Ecology, and agree to keep septic recharge on the properties or its equivalent quantities.

Contingent Alternative Mitigation Plan

If and only if the above mitigation plan is lawfully determined by Ecology to be inadequate, the following contingent alternative mitigation plan is proposed.

The potential negative impact to ground water recharge in the Fisher-Carpenter Creek subbasin due to the use of the shallow wells located on Lots 2 and 10, though already offset by a net positive impact from Sun Peak Estates as an entirety, could also be eliminated if the shallow wells on Lot 2 and 10 were deepened and completed within the Sedimentary Aquifer. Based upon the hydrogeological assessment, the use of the Lot 2 and 10 wells modified in this manner (deepened) would result in removing ground water from the Stillaguamish River basin and would not result in any negative impact to ground water recharge in the Fisher-Carpenter Creek subbasin or a diminishment of flow in Fisher Creek, offset or otherwise.

Therefore, a proposed contingent alternative mitigation plan is as follows:

- 1. Remove the PVC liners installed in the wells located on Lots 2 and 10.
- 2. Drill the wells to depths greater than roughly 140 feet.
- 3. Confirm that the static water level elevations in the deepened wells are in the range of approximately 500 to 520 feet indicating that the wells are intercepting the regional Sedimentary Aquifer.
- 4. Install a new PVC liner in each well that is slotted in a manner which allows water from the deep Sedimentary Aquifer to enter the well.
- 5. Each owner of the deepened wells on Lot 2 and 10, in addition to the owners of Lots 3, 4, 7, 9 and 11, will also comply with the necessary and lawful conditions stated in WAC 173-505-090(2).

LIMITATIONS

We have prepared this report for the use of the identified seven appellants in regard to the use of single-family domestic wells at the Sun Peaks Estates in Snohomish County. The conclusions and interpretations presented in this report should not be construed as a warranty of the subsurface conditions. Our conclusions and recommendations are based on our review of the information described in this report and our interpretation of best available science at the time of this reports preparation. Our experience has shown that soil and ground water conditions can vary significantly over small distances.

Within the limitations of scope, schedule, and budget, AESI attempted to execute these services in accordance with generally accepted professional principles in the field of hydrogeology at the time this report was prepared. No warranty, express or implied, is made.

We have enjoyed working with you and are confident that these recommendations will aid in the successful completion of your project. If you should have any questions or require further assistance, please do not hesitate to call.

Sincerely,
ASSOCIATED EARTH SCIENCES, INC.
Everett, Washington



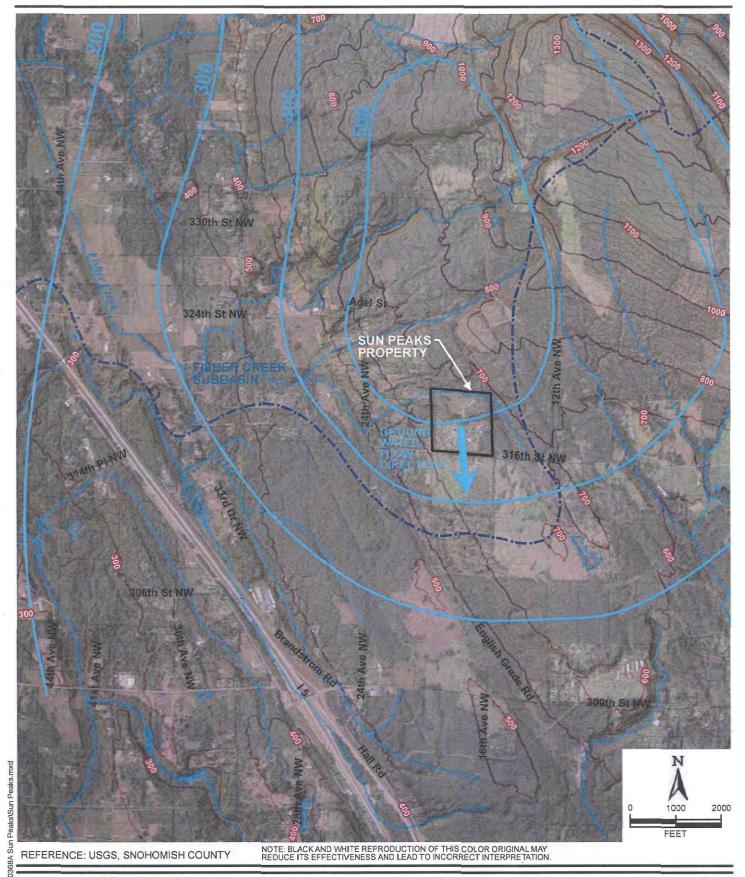
Charles S. Lindsay, L.G., L.E.G., L.Hg. Senior Principal Geologist/Hydrogeologist

Attachments:

Figure 1: Location Map

Figure 2: Plat Map

Figure 3: Geologic Cross Section A - A' Attachment A: Water Well Reports



Associated Earth Sciences, Inc.





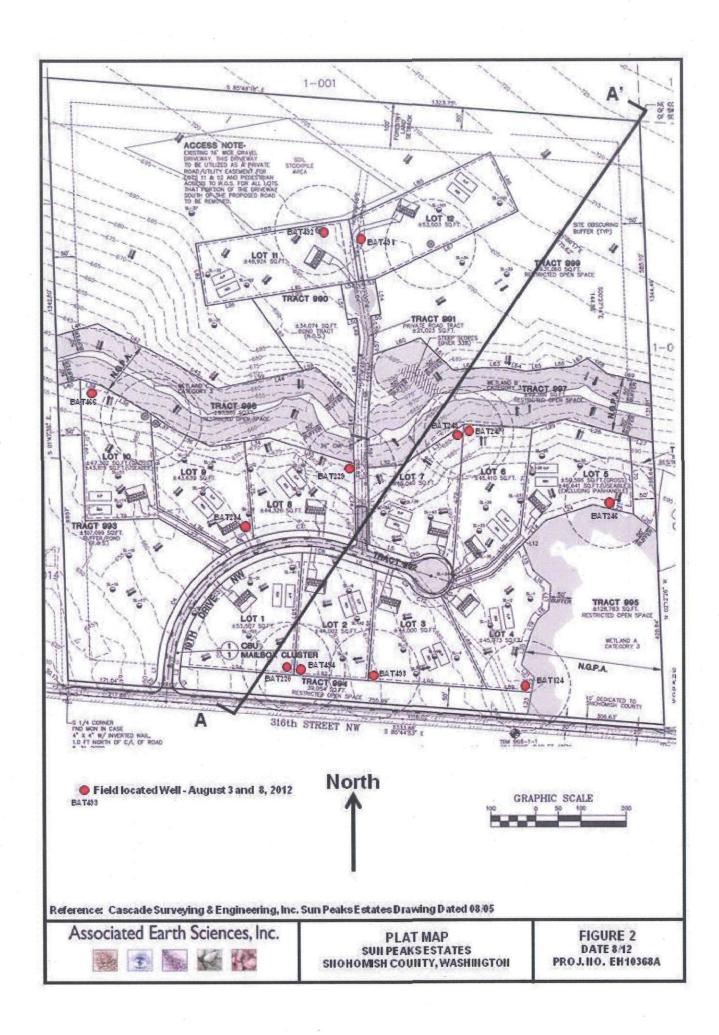


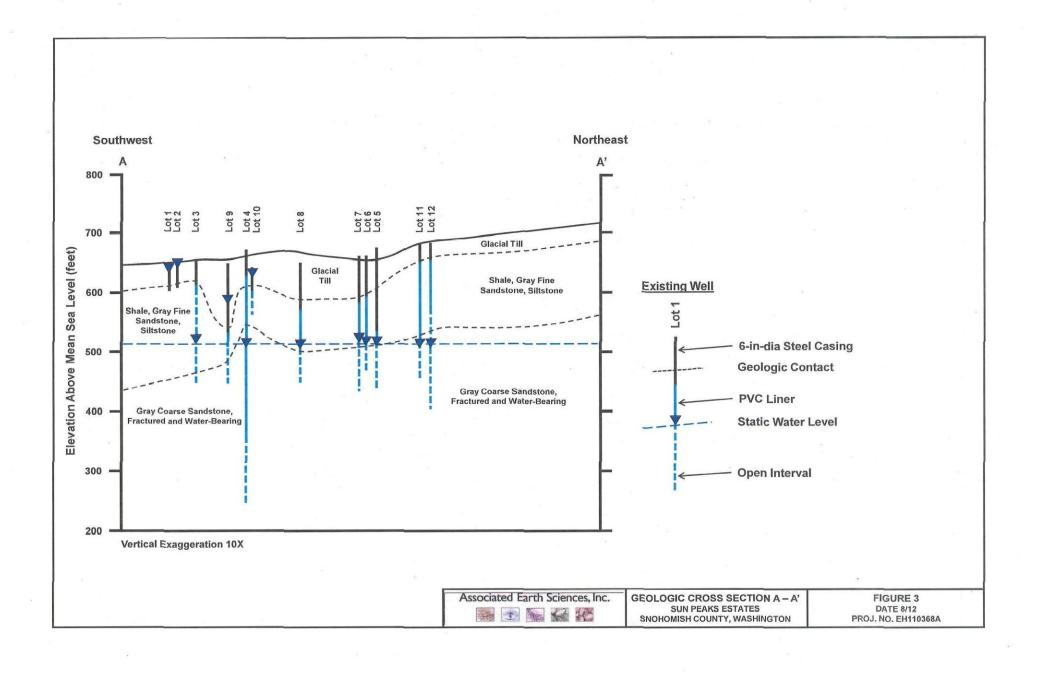


LOCATION MAP SUN PEAKS ESTATES SNOHOMISH COUNTY, WASHINGTON

FIGURE 1 DATE 07/12

PROJ. NO. EH110368A





ATTACHMENT A Water Well Reports

ECY 050-1-20 (Rev 3/05).

FAX	NO.	4253395254
4 4 4 4 5 7	110,	45 00000000

yercic P. 02

Supreme .	1	K	:(1+1
WATER WELL EPORT Original & I" copy - Ecology, 2 "copy - wener, 3" copy - driller	CURRENT Notice of Intent No. 212521	7.1	
Construction/Decommission ("x" in circle)	"Water Right Permit No.	+ 2)	<u></u>
O Decommission ORIGINAL INSTALLATION Notice of Intent Number FFR 2	Dropposty Change Norms True Une to	ath DII	لروز المال
PROPOSED USE: Domestic Industrial Municipal 111/11/10	11 Say < 1 (County <	haha m	Sh Lot
TYPE OF WORK: Owner's number of well (if more than one) PENew well Reconditioned Method: Drig Bored Driven Deepened Retary Detted	Lat/Long (s, t, r Lat Deg La	WWW	cicle #
DIMENSIONS: Dismeter of well 6 inches, drilled 4 R. Depth of completed well 48 R.	Still REQUIRED) Long Dag Lo		
CONSTRUCTION DETAILS Cosing St Welded 6 " Diam Dam 0 4 to 4/6 ft	Tax Parcel No. 010757 0000		
Sastalled: C Liner installed Diam from ft. to ft. C Threades Diam from ft. to ft. Forferstons: C Yes & No	CONSTRUCTION OR DECOMMISSION Formation: Describe by color, character, size of material and nature of the material in each strainin penetrated, with at loan	structure, and the	idind and
Type of perforator used	information (USE ADDITIONAL SHEETS IF NECE	SSARY.)	
SIZE of ports in by in and no of perfs from the to the Screens: Type Of No O K-Pass Location	MATERIAL	FROM	то
Manufacturer's Name	ton Chay	0	2
Type Model No. Diagn. Slot size from ft. to ft. Dlam. Slot size from ft. to ft.	tan conglermant	2	16
Gravel/Filter packed:	furny congler mant	16	20
Surface Seal: GTYes Q No To what depth? 18 ft. Material used in seal Brend house Chio S	Brown Silty Saw clay	20	24
Did any strate contain unumable water? Depth of strate Depth of strate	5 mall Levily	24	33
Method of scaling strata off			
PUMP: Manufacturer's Name (1-0.11) Type: Sci 13: H.P. 344	Dark Gray Uniform	33	4/5
WATER LEVELS: Zand-surface, clovation above mean sea level R	clargesta shale chips		· ·
Static level	Bushen Shale H20	415	48-
Artesian water is controlled by (cap, valve, etc.)	2778		
WELL TESTS: Drawdown is amount water level is lowered below static level Was a pump test made? PC Yes Q No Hyes, by whom?		- 1	
Yield: La galarain with Lafe it drawdown other 3 hrs.			
Yield: pal/min with B. drawdown after has. Yield: gal/min with ft deswdown after has.			
Receivery data (timo salam as zero when pump turned off) (water land measured from well top to water level)			
Time Water Level Time Water Level Time Water Level			
Date of test			
Bhiler lest gol./min. with 20 th. dimwdown infer hrs.			 .
Airtest gal/min. with stem set at ft. for hrs Artesian flow gap m. Date			
Temperature of water Was a chemical analysis mude? Of Yes D No	Start Date 1/5/ 08 Completed	Date 2	1408
WELL CONSTRUCTION CERTIFICATION: I constructed and/or acce	pt responsibility for construction of this well, and	its compliance	
Washington well construction standards. Materials used and the information	reported above are true to my best knowledge and Drilling Company A 1. Drilling Company		HU.TW.
Orlien/Engineen/Trainee Signature	Address Pa Boy 1707		
Drillen prantinee License No. 1249	City State, Zip 5- (un wood) (was	9829	1
If TRAINEE, Driller's Lloonsuf No.	Contractor's Registration No. A 1011 NOS Gr FT	- o'.	1008
Driller's Ciconani rea	Registration No. A HOT 11 103 Gr FT	PUIC	innines

		stanno	DI / at
WATER WELL REPORT Original & 1" copy - Ecology, 2" copy - owner, 3" copy - driller	Notice of Intent No. W. 208	123	
Construction/Decommission ("x" in circle)	Unique Ecology Well-ID Tag No. Box	+ 4	94
S Construction	Water Right Permit No.	-	
O Decommission ORIGINAL INSTALLATION Notice	Property Owner Name Kruin So	nd Ru	va
of Intent Number	Well Street Address 20+2 19+A		
PROPOSED USE: O Domestic Industrial Municipal DeWater Irrigation Test Well Other	City Stanwood County 5		
TYPE OF WORK: Owner's number of well (if more than one)	Location 5 14-1/4 N 15/4 Sec 2 Twn 32	R4 GA	tirde
Method: □ Duy □ Bored □ Driven □ Deepened □ Poten □ Driven □ Deepened □ Poten □ Rotary □ Jetted	Lat/Long (s, t, r Lat Deg Lat	Min/Sec_	
DIMENSIONS: Diameter of well 6 inches, drilled 42 ft.	Still REQUIRED) Long Deg Lo	ng Min/Sec	
Depth of completed well 42 n. CONSTRUCTION DETAILS	Tax Parcel No. 0.10757 000 0		
Casing Welded" Diam from 7 ft. to 4/2 ft. Installed: Liner installed" Diam from ft. to	CONSTRUCTION OR DECOMMISSION	PDACENT	DE
Perforations: D Yes D No	Formation: Describe by color, character, size of material and	structure, and ti	ne kind and
Type of perforator used	nature of the material in each stratum penetrated, with at least information. (USE ADDITIONAL SHEETS IF NECES	SARY.)	ich change of
SIZE of perfs in. by in. and no. of perfs from ft. to ft. Screens:	MATERIAL	FROM	TO
Screens:	Black DUFF	0	2
Type Model No.	Asia (analama + Par	0	10
Diam. Slot size from ft. to ft. Diam. Slot size from ft. to ft.	silt clair	2	12
Gravel/Filter packed: D Yes DNNo D Size of gravel/sand Materials placed from ft. to ft.	(-Bay conglormant	.12	33
Surface Seal: Yes No To what depth? 18 ft.	Fruis Sandstone 7inc	33	41
Material used in seal 03-11-10 1+1 Ch 1/2 5 Did any strata contain unusable water? D Yes 12 No	Greet Fracture Sandstone	411	42
Type of water? Depth of strata	7) r t		10
Method of sealing strata off).		
PUMP: Manufacturer's Name N O			7.50
WATER LEVELS: Land-surface elevation above mean sea levelft			
Static level 6 ft. below top of well Date 22210 Artesian pressure lbs. per square inchr Date			
Artesian water is controlled by			<u> </u>
(cap, valve, etc.)			
WELL TESTS: Drawdown is amount water level is lowered below static level			
Was a pump test made? ☐ Yes ☐ No If yes, by whom?			
Yield: gal/min. with ft. drawdown after hrs.			
Yield: gal/min. with ft. drawdown after hrs.		OUT	
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)			
Time Water Level Time Water Level Time Water Level			
			-
Date of test 2 2 2 1 0			
Bailer test 5 gal/min. with 30 ft. drawdown after 2 hrs.			
Aintest gal/min. with stem set at ft. for hrs.			
Artesian flow B.p.m. Date			
ATTESIZED BOW	·		
Temperature of water Was a chemical analysis made? If Yes II No	Start Date 2 13 10 Complete	Date 2	2310

Driller/Engineer/Trainee Signature

Address 27813 60+1 Dru ru

Address 27813 60+1 Dru ru

City, State, Zip 54 Newcoun

Contractor's

Contractor's

Registration No. 45 Dr 10 1942 Date 2 24/10

Driller's Signature

Ecology is an Equal Opportunity Employer.

A college of the coll	Rosenbers Lot3	11/2/06	1400
WATER WELL REPORT	CURRENT		The same
Original & 1" copy - Ecology, 2" copy - owner, 3" copy - driller	Notice of Intent No. 1446 89		How I
Construction/Decommission ("x" in circle)	Unique Ecology Well HD Tag No. 65	+ 46	13
© Construction	Water Right Permit No.		
O Decommission ORIGINAL INSTALLATION Notice	Property Owner Name Kruin Se	INDR	419
of Intent Number	Well Street Address 20+3 19-1/a		
PROPOSED USE: Domestic Industrial Municipal	City 5 tan wood County 5)		
□ DeWater □ Irrigation □ Test Well □ Other	Location 5 B 1/4-1/4 N 5 1/4 Sec 2 Twn 3-		
TYPE OF WORK: Owner's number of well (if more than one)		ww	M one
Method: □ Dug □ Bored □ Driven □ Deepened □ Cable □ Rotary □ Jetted	Lat/Long (s, t, r Lat Deg La	t Min/Sec	
DIMENSIONS: Diameter of well 6 inches, drilled 205 ft. Depth of completed well 205 ft.	Still REQUIRED) Long Deg Lo	ng Min/Se	c
CONSTRUCTION DETAILS	Tax Parcel No. 010 757 000	003	00
Casing B Welded 6" Diam from +2 ft to 43 ft. Installed: Liner installed 45" Diam from -4 ft to 205 ft.	CONSTRUCTION OR DECOMMISSION	N DDACEN.	IDE
☐ Threaded ** Diam. from ft. to ft. Perforations: ② Yes ☐ No	Formation: Describe by color, character, size of material and	structure, and t	he kind and
Type of perforator used Saw	nature of the material in each stratum penetrated, with at least information. (USE ADDITIONAL SHEETS IF NECE.	one entry for e	ach change of
SIZE of perfs 3/16 in. by 4 in. and no. of perfs 200 from 100th to 205	MATERIAL	FROM	. то
Screens:	Black DUFF Silty	0	2
Manufacturer's Name Model No	conglor mant	2	14
Diam. Slot size from ft to ft. Diam. Slot size from ft to ft.	Rock s, It clay	14	36
Gravel/Filter packed: Yes SNo Size of gravel/sand	Gray conglorment	14	36
Materials placed from ft. to ft.	Cryay Finx Sand Stone	36	130
Surface Seal: X Yes D No To what depth? 18 ft.			
Material used in scal <u>Gentinoit ChiDS</u> Did any strata contain unusable water? U Yes ENo	Hard Dan Gray	130	150
ype of water? Depth of strata	Frail 7in = 50th Ostone	150	203
Nethod of sealing strata off		7,50	
Type: HP.	21914 Brown shale	203	205
WATER LEVELS: And-surface elevation above mean sea level ft.			- 3'-
Static level 61 ft. below top of well Date 12960			-
Artesian pressure lbs. per square incir Date			
Artesian water is controlled by (cap, valve, etc.)			
WELL TESTS: Drawdown is amount water level is lowered below static level		,	
Was a pump test made? Yes No If yes, by whom?			
Yield: 180 gal/min with 140 ft drawdown after hrs. Yield: 90 gal/min with 70 ft drawdown after hrs. Yield: 90 gal/min with 70 ft drawdown after hrs.	itest	L - E	
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)	<u> </u>		
Time WaterLevel Time WaterLevel Time WaterLevel			
Date of test			
			<u> </u>
Bailer test 1,5 gal./min. with 144 ft. drawdown after 3 hrs.			
Airtest gal Imin. with stem set at ft. for hrs.			



WATER WELL REPORT

te of Intent No. WE07375 te Ecology Well ID Tag No. BAT II r Right Permit No. try Owner Name SUNDBERG HO Street Address LOT 4 19TH DRIVI STANWOOD C ton SE 1/4-1/4 SE 1/4 Sec 2 (s, t, r Still REQUIRED) cong Lat Deg Long Deg Long Deg CONSTRUCTIONER DECOMMISSION ation: Describe by color, character, size of me to of the analesial is cach stratum peractuated, w formation. (USE ADDITIONAL SHEETS IF I MATERIAL WN CLAY AND GRAVEL VEL SAND AND BROWN SILT WN CLAY AND GRAVEL	MES ENW County SNOHOM Twn32 R 4 Lat Min/Sec Long Min/Sec 0-004-00 PROCEDURE statist and structure, are citin at least one copy s	ad the kind and
r Right Permit No. rty Owner Name SUNDBERG HO Street Address LOT 4 19TH DRIVI STANWOOD C ion SE 1/4-1/4 SE 1/4 Sec 2 (s, t, r Still REQUIRED) ong Lat Deg Long Deg Parcel No. (Required) 010757-000 constructioner Decommission ation: Describe by color, character, size of one to of the material in cach stratum percented, we ionization. (USE ADDITIONAL SHEETS IF I MATERIAL WN CLAY AND GRAVEL VEL SAND AND BROWN SILT WN CLAY AND GRAVEL	MES ENW County SNOHOM Twn32 R 4 Lat Min/Sec Long Min/Sec 0-004-00 PROCEDURE sterial and structure, are rith at least use empty successary.) FROM 0	or on the kind and for each change
r Right Permit No. rty Owner Name SUNDBERG HO Street Address LOT 4 19TH DRIVI STANWOOD C ion SE 1/4-1/4 SE 1/4 Sec 2 (s, t, r Still REQUIRED) ong Lat Deg Long Deg Parcel No. (Required) 010757-000 constructioner Decommission ation: Describe by color, character, size of one to of the material in cach stratum percented, we ionization. (USE ADDITIONAL SHEETS IF I MATERIAL WN CLAY AND GRAVEL VEL SAND AND BROWN SILT WN CLAY AND GRAVEL	MES ENW County SNOHOM Twn32 R 4 Lat Min/Sec Long Min/Sec 0-004-00 PROCEDURE sterial and structure, are rith at least use empty successary.) FROM 0	or on the kind and for each change
Street Address LOT 4 19TH DRIVI STANWOOD ConSE 1/4-1/4 SE 1/4 Sec 2 (s, t, r Still REQUIRED) Cong Lat Deg Long Deg Parcel No. (Required) 010757-000 CONSTRUCTIONOR DECOMMISSION ation: Describe by color, character, size of one to of the material in cach stratum peractualed, with the construction of the material in the construction of the material in the cach stratum peractualed, with the construction of the material in the cach stratum peractualed, with the cach stratum peractual of the material in the cach stratum peractual of the material of the cach stratum peractual of the cach stratum perac	County SNOHOM Twn32 R 4 Lat Min/Sec Long Min/Sec -004-00 PROCEOURE Install and structure, as rith at least use entry ! NECESSARY.) FROM 0	DATE ON
STANWOOD Consecutive Standard Section	Lat Min/Sec Long Min/Sec	or on the kind and for each change
ion SE_ 1/4-1/4 SE_ 1/4 Sec 2 (s, t, r Still REQUIRED) ong Lat Deg Long Deg Parcel No. (Required) 010757-000 constructioner Decommission ation: Describe by color, character, size of one to of the staterial in cach stratum percented, w formation. (USE ADDITIONAL SHEETS UP) MATERIAL WN CLAY AND GRAVEL VEL SAND AND BROWN SILT WN CLAY AND GRAVEL	Lat Min/Sec Long Min/Sec J-004-00 PROCEDURE sterial and structure, are rith at least one empty successARY.) FROM 0	and the kind and for each change
ion SE_ 1/4-1/4 SE_ 1/4 Sec 2 (s, t, r Still REQUIRED) ong Lat Deg Long Deg Parcel No. (Required) 010757-000 constructioner Decommission ation: Describe by color, character, size of one to of the staterial in cach stratum percented, w formation. (USE ADDITIONAL SHEETS UP) MATERIAL WN CLAY AND GRAVEL VEL SAND AND BROWN SILT WN CLAY AND GRAVEL	Lat Min/Sec Long Min/Sec J-004-00 PROCEDURE sterial and structure, are rith at least one empty successARY.) FROM 0	od the kind and for each change
(s, t, r Still REQUIRED) ong Lat Deg Long Deg Parcel No. (Required) 010757-000 constructioner decomplission ation: Describe by color, character, size of ma cof the material is each straum penetrated, with the material in the straum penetrated, with material WATERIAL WN CLAY AND GRAVEL VEL SAND AND BROWN SILT WN CLAY AND GRAVEL	Lat Min/Sec Long Min/Sec 0-004-00 PROCEOURE steried and structure, are ith at least one entry in MECESSARY) FROM 0	or wrwing Or wrwing or each change
Long Deg Parcel No. (Required) 010757-000 CONSTRUCTION OR DECOMMISSION ation: Describe by color, character, size of ma of the analesial is cach stratum penetrated, w formation. (USE ADDITIONAL SHEETS IF) MATERIAL WN CLAY AND GRAVEL VEL SAND AND BROWN SILT WN CLAY AND GRAVEL	Long Min/Sec)-004-00 PROCEOURE stended and structure, as rith as least one entry ! NECESSARY.) FROM 0	ad the kind and for each change
Parcel No. (Required) 010757-000 CONSTRUCTION OR DECOMMISSION ation: Describe by color, character, size of our to of the analerial in each stratum penetrated, w introduce. (USE ADDITIONAL SHEETS OF I MATERIAL WN CLAY AND GRAVEL VEL SAND AND BROWN SILT WN CLAY AND GRAVEL	PROCEDURE sterial and structure, as rith at least one coby ! NECESSARY.) FROM 0	ad the kind and for each change
CONSTRUCTION OR DECOMMISSION ation: Describe by color, character, size of out to of the staterial in cach stratum personaled, w invantion. (USE ADDITIONAL SHEETS OF) MATERIAL WN CLAY AND GRAVEL VEL SAND AND BROWN SILT WN CLAY AND GRAVEL	PROCEDURE straid and structure, as rith an least one entry! FROM 0	for each change
CONSTRUCTION OR DECOMMISSION ation: Describe by color, character, size of out to of the staterial in cach stratum personaled, w invantion. (USE ADDITIONAL SHEETS OF) MATERIAL WN CLAY AND GRAVEL VEL SAND AND BROWN SILT WN CLAY AND GRAVEL	PROCEDURE straid and structure, as rith an least one entry! FROM 0	for each change
MATERIAL WN CLAY AND GRAVEL VEL SAND AND BROWN SILT WN CLAY AND GRAVEL	FROM 0	
WN CLAY AND GRAVEL VEL SAND AND BROWN SILT WN CLAY AND GRAVEL	0	
VEL SAND AND BROWN SILT WN CLAY AND GRAVEL	1	
WN CLAY AND GRAVEL		21
	21	24
VEL SAND AND BROWN SILT	24	30
Y CLAY SILT SAND AND GRAVEL	30	36
CK SHALE WN SILTSTONE	36	48
		130
		235
	235	1425
		+
		-
		-
		1
		-
		+
	_	+
		+
		-
		-
	-	+
Date 10/22/07 Complete	d Date 10/24/07	1
	Y SANDSTONE Y SANDSTONE Y SANDSTONE T Date 10/22/07 Complete Struction of this well, and its compliance st knowledge and belief.	Y SANDSTONE Y SANDSTONE 130 210 Y SANDSTONE 235 Date 10/22/07 Completed Date 10/24/07 Struction of this well, and its compliance with all Washingto at knowledge and belief. Iling Company DAHLMAN PUMP & WELL DRILLI

نه	
0	
ep	
8	
_	
a	
3	
s We	
=	
1	
Ĕ	
0	
5	
É	
<u>a</u>	
E	
0	
E	
he	
T	
ō	
o/pui	
Ĕ	
W	
Jata and	
10	
y the Data an	
9	
#	
2	1
50	
Varr	
3	
-	*
5	
3	
10	
نة	
does	
0	
3	
0	
0	
E	
Sales Sales	
0	
#	
a	1
E	
E	
D	
9	
O	
-	- 1

•			12		10 %	
			-	3172	77	
	****	-			,	
				L REP		
OWNER, PTH	Origina	& I" copy	- Ecology, 2	on Collà — Omite	er, 3rd copy - dri	Her
Construction	n/Deco	mmissi	on /"x" is	n circle)		
onstruction of Comments			and w to	. circi		

Birdon (1+5: 32.4	1E-2	#
CURRENT Notice of Intent No. W2685	71	12
Unique Ecology Well ID Tag No	+24	6
Water Right Permit No.	Superior.	01:35
Property Owner Name Sun Berg 1	HOM &	711111111111111111111111111111111111111
Well Street Address Lots: 31720	19th DY	wel
City Stanwood County 52		
Location 5/3/4-1/4 //3/4 Sec 2 Twn 32	2R4 CEWN	directe
Lat/Long (s, t, r Lat Deg La	WWI Min/Sec	d one
CAN DECLUBED		
Still REQUIRED) Long Deg Lo		
Tax Parcel No. 010757 00000	500	
CONSTRUCTION OR DECOMMISSIO	N PROCEDU	RE
Formation: Describe by color, character, size of material and	structure, and th	e kind and
nature of the material in each stratum penetrated, with at least information. (USE ADDITIONAL SHEETS IF NECE		ch change of
MATERIAL	FROM	TO
tan top silty same	0	3
tan silty saw zinc	3	17
Gray Firm gilty Gravel	17	32
Gray corse SILY Sand .	32	67
tan shale	67	98
Gray Fine saw stone	98	175
Cray medium sandstone	175	198
1420 190	1	
Fine Gray sand stone	198	240
	1	
	(1 to 1 to 1	
7/00 rate 3 1-pm		
RECEIVE		
RECEIVE	_	
OCT 1 7 2008		
DEPT. OF ECOLO	GY	

As Construction .	water Right Permit No.		
O Decommission ORIGINAL INSTALLATION Notice	Property Owner Name Sun Berg b	60ME	
of Intent Number	Well Street Address Lats: 31720	19th DY	NUL
PROPOSED USE: Domestic Industrial Municipal DeWater Inrigation Test Well Other	City Stanwood County 5 m		
	Location 5/3/4-1/4 //3/4 Sec 2 Twn 32		
TYPE OF WORK: Owner's number of well (if more than one)		WWN	d one
Method: □ Dug □ Bored □ Driven □ Despende ■ Reconditioned ■ Method: □ Dug □ Bored □ Driven □ Despende ■ Rotary □ Jetted	Lat/Long (s, t, r Lat Deg Lat	Min/Sec_	
DIMENSIONS: Diameter of well 6 inches, drilled 240h.	Still REQUIRED) Long Deg Lor	a Min/Sac	1
Depth of completed well 240 ft.	Dong Dog Doi	-	
CONSTRUCTION DETAILS	Tax Parcel No. 010757 00000	500	
Casing Welded 6 Diam from 41 ft. to 241 ft. Installed: Diam from 6 ft. to 240 ft.	CONCERNICATION OF PROPERTY.		200
Threaded fi. to ft.	CONSTRUCTION OR DECOMMISSION		
Perforations: Pres D No	Formation: Describe by color, character, size of material and a nature of the material in each stratum penetrated, with at least	and the cutty for ca	ch change of
Type of perforator used 50W	information (USE ADDITIONAL SHEETS IF NECES		
\$12E of perfs 3/16 in by 4 in, and no. of perfs 100 from 140 ft. 102140	MATERIAL	FROM	TO ·
Screens: O Yes & No O K-Pac Location	tan top silty same	0	3
Manufacturer's Name	tan silty sand fine	3	17
Type Model No. Diam. Slat size from fl. to fl.	Grav Firm gilty Gravel	17	3.2
Diam. Slot size from ft. to ft.	Gray corse SIH Sand .	32	67
Gravel/Pilter packed: Yes W No Size of gravel/sand Materials placed from	tan shalk	67	98
Materials placed from ft. to ft.	Cray Fine sandstone	98	175
Surface Seal: BYes Dayo To what depth? 20 A. Material used in scal BENTINOITE Chips	tray medium sandstone	175	198
Did any strata contain unusable water?	Fine cray sand stone	198	240
Type of water? Depth of strata			
Method of sealing strata off			
PUMP: Manufacturer's Name GOULO			
Type: SUB HP =			
WATER LEVELS: Land-surface elevation above mean sea levelft.		and the second	
Static level 175 ft. below top of well Date 9,2508			
Anesian pressure lbs. per square inchr Date		999 10	
Artesian water is controlled by (cap, valve, etc.)			
WELL TESTS: Drawdown is amount water level is lowered below static level			Fields.
Was a pump test made? OF Yes O No If yes, by whom? Decilo		172013	
Vield: 5 gal/min, with 30 ft. drawdown after / brs.			
Yield: 3 gal/min with 30 ft drawdown after 2 hrs. Yield: gal/min with ft drawdown after hrs.	Flow rate 3 Irpm		
Recovery data (time taken as zero when pump turned aff) (water level measured from well top to water level)			
Time Water Level Time Water Level Time Water Level	RECEIVE	,	
Date of test	OCT 1 7 2008		
Bailer test 5 gal/min. with 45 ft. drawdown after 30 Min		~	
Aintestgal/min, with stem set atft. forhrs.	DEPT. OF ECOLO	YE	
Artesian flow			
temberature or setter use a frequency stratibus usant the tex = 140	Sugar O / O C Complete	Dala G	2=08

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief. David Ruthala & Drilling Company AIDrilling and Diggin In Address 22413 GOTA DVU.
City, State, Zip Stancood Driller/Engineer/Trainee Signature Driller or trainee License No. Contractor's ITTRAINEE, Registration No. 41 Dr. 01942 9E Date 10108 Driller's Signature Ecology is an Equal Opportunity Employer.

Report,	
e	
on this Well	
中	
o	1
ion	1
mal	1
for	Ľ
inty the Data and/or the Information o	FF TT SS SS MM DD DD TT: MM PPT TT:
击	L P
o/p	T
an	S
ata	T
e D	Ġ.
/ 年	N
ant	,Si
arr	D
3	M
O I	T
ly does NOT Warrant	21
op	A
S d	W
00	W Yi
E E	Yi Yi
- <u>o</u>	Re
Jen	Ti
£	De

Original & I." copy - Ecology, 2"d copy - owner, 3"d copy - driller

Construction/Decommission ("x" in circle) Construction	Water Right Permit No.		
O Decommission ORIGINAL INSTALLATION Notice	Property Owner Name Sun Peak	B's T	
of Intent Number	Well Street Address 20th, 31826	Kith	Driver
PROPOSED USE: Domestic Industrial Municipal DeWater Inigation Test Well Other	City 5 tan wood County 51	ohom	15 h
TYPE-OF WORK: Owner's number of well (if more than one)	Location 5 1/4-1/4 1 1 1/4 Sec 2 Twn 22	R4 CEUR	Circle
New well Reconditioned Method: Dug Bored Driven Despensed Despensed Rotary Jetted	Lat/Long (s, t, r Lat Deg Lat	Min/Sec_	M one
DIMENSIONS: Diameter of well 6 inches, drilled 20 7 ft. Depth of completed well 20 7 ft.	Still REQUIRED) Long Deg Lon	ng Min/Sec	<u> </u>
CONSTRUCTION DETAILS Cosing Welded 6 "Diam from 0 ft. to 69 ft.	Tax Parcel No. 3204 02 004 00	300)
installed: D. Liner installed 43 Diam. from -5 ft. to 207 ft.	CONSTRUCTION OR DECOMMISSION	PROCEDI	RE
Perforations: Si Yes No Type of perforation used Saw	Formation: Describe by color, character, size of material and a nature of the material in each stratum penetrated, with at least information. (USE ADDITIONAL SHEETS IF NECES	one entry for a	
SIZE of peris 3/16 in. by 4 in. and no. of peris 50 from 14/1. to 2017	MATERIAL	FROM	ТО
icreens:	Z.M.	+2	10
daquifacturer's Name	tantop soil sundy	0	3
ype Model No. R to ft.	tan conglormano	3	141
Diam. Slot size from ft. to ft.	Gray Conglornat	15	55
Gravel/Filter packed: O Yes OF No O Size of gravel/sand.	Gray Finsandston	55	65
Agrecials placed from ft. to ft.	modium Gray sow Stone	65	87
erface Seal: (Yes No To what depth? 21 A.	Fine U-roul garastone	87	140
Material used in seal Bentlingstachips	SOKShale Irray	140	14/5
Did any strata contain unusable water? Yes No	6-ray shale #20	145	185
ypc of water? Depth of strata	bruy sand stone	185	207
UMP: Manufacturer's Name 0-0010			
ype: <u>SUB</u> H.P. <u>1</u>	Well Produce 6 bpx	n	
VATER LEVELS: Land-surface elevation above mean sea levelft,	Lot 5 .351 W45+		
tatic level	Produce 1,5/FPM		
ntesian pressurelbs. per square inchr Date			
riesian water is controlled by	Welltrat 215 hr al	-60	Pm
(cap, valve, etc.)	Lot 5 Drop 3611		
VELL TESTS: Drawdown is amount water-level is lowered below static level /as a pump test, made? Wes D No If yes, by whom?		ad a la	
ield: 16 gal./min. with 40 ft. drawdown after 2.15 brs.			
ield: gal/min. with ft. drawdown after hrs. ield: gal.min. with ft. drawdown after hrs.			
ecovery data (time taken as zero when pump surned off) (water level measured from well p to water level)	RECE	VED	
ime Water Level Time Water Level Time Water Level			
	DEC 1	2008	
ate of test 12308			
ate of test 10 gal /min. with 45 ft. drawdown after has.	DEPT. OF E	COLOG	Y
intest gal./min. with stem set et ft. for has.			1900
resian flow gar, mini. with stein set at			
emperature of water Was a chemical analysis made? WYes No			
with the state of married and state of the s	Start Date 9 10 08 Completed	10-13	17.0
	Start Date 9 10.0% Completed	Date /	Lacron

CURRENT Notice of Intent No.

Driller O Engineer O Traince Name (Print) Paul Dach COU Drifter/Engineer/Trainee Signature City, State, Zip 5 to n avaa u Driller or traince License No. ITTRAINEE. 1 D A LI 2 A D Date 12 12 08 Driller's Signature Ecology is an Equal Opportunity Employer.

1	CONTRACTOR OF THE PARTY OF THE

WATER WELL REPORT

Original & 1st copy - Ecology, 2st copy - owner, 3rd copy - driller

1001001	Unique Ecology Well ID Tag No Go-	+ 24	8
Construction/Decommission ("x" in circle) © Construction	Water Right Permit No.		77.79
O Decommission ORIGINAL INSTALLATION Notice	Property Owner Name 5 unk-cuks	Fiston	1-5
of Intent Number	Well Street Address Lot 7) Sun D.		
PROPOSED USE: If Domestic Industrial Municipal DeWater Impation Test Well Other	City S-tanuage County Sh		
D Dewald . : D inigation . D Test well . D Otter	Location 5£1/4-1/4 NE/4 Sec. 2 Twn32		circle
TYPE OF WORK: Owner's number of well (if more than one)	The state of the s	WWM	one
New well Capened Method: Dug Bored Driven Capened Capened Rotary Detect	Lat/Long (s, t, r Lat Deg Lat	Min/Sec_	3. 7.17
DIMENSIONS: Diameter of well 6 inches, drilled 12 6 ft.	Still REQUIRED) Long Deg Loi	ng Min/Sec	
Depth of completed well 126 ft.	Tax Parcel No. 3204103 0041	0030	0
Casing D Welded 6 " Diam from 6 ft to 78 ft	12x 12x 100. 320 103 00-1	0000	
Installed: O Liner installed — 5 " Diam from — 7 ft to 226 ft. Thorades — Plans from — 7 ft to 226 ft.	CONSTRUCTION OR DECOMMUSSION		200
Perforations:	Formation: Describe by color, character, size of material and nature of the material in each stratum penetrated, with at least		
Type of perforator used 52 W	information. (USE ADDITIONAL SHEETS IF NECES		
SIZE of peris 3/16 in by 4 in and no. of peris 100 from 1 15th to 226	MATERIAL	FROM	то
Screens:	tan topsoil sanily	0	3
Manufacturer's Name	tan till	. 3	14
Type Model No. Diaru, Slot size from ft to ft.	Grantill	15	35
Diarn. Slot size from ft to ft. Diarn. Slot size from ft to ft.	Gray Silty Sand (orse	35	75
Gravel/Filter packed: D Yes No D Size of gravel/sand	Gran Fine Sandston-	75	150
Materials placed from ft. to ft.	Gray corse sand stone	150	160
Surface Seal: W. Yes Q No To what depth? 20 ft.	Gray 7 in - sandstone	160	204
Material used in seal Bentinoite Chr. D. 5	braishele #10	2014	207
Did any strata contain impsable water? Yes No		207	226
Type of water? Depth of strata	Gray sand Stone	201	~~~
Method of sealing strata off		-	77.
PUMP: Manufacturer's Name NO			
Туре Д.Р			
WATER LEVELS: Land-surface elevation above mean sea level ft.			
Static level / 155 / ft. below top of well Date /0 708			
Artesian pressure Ibs. per square inch Date	The territory of the second se		
Artesian water is controlled by			
(cap, valve, etc.)	Daub and Transi		
WELL TESTS: Drawdown is amount water level is lowered below static level	PUMP Setat 207		
Was a pump test made? Yes Yes You If yes, by whom?	at 1 GFM to Slow		
Yield: gal/min with ft. drawdown after hrs.	bray Flooring Silt		
Yield: gal/min with ft drawdown after hrs. Yield: gal/min with ft drawdown after hrs.		1 1 1	
Recovery data (time taken as zero when pump turned off) (water level measured from well			
top to water level)			
Time Water Level Time Water Level Time Water Level		12.5	
Date of test 10 60 8			
Bailer test 12 gal/rain. with 70 ft. drawdown after 20 ms.	recoverat 1,5 1,7m		
Airtest gal/min. with stem set at ft. for hirs.			
Artesian flow g.p.m. Date			
Temperature of water Was a chemical analysis made? Yes No			
semberance or super			708

Driller D Engineer O Traince Name (Pri Priller/Engineer/Trainee Signature City, State, Zip Sturi Work riller or trainee License No. DVID1942RE Date 10 0708 Registration No. 2

IF TRAINEE, Driller's Licensed No Driller's Signature

Ecology is an Equal Opportunity Employer.

Oriller's Signature

ECY 050-1-20 (Rev 3/05)

Dennett Lot 8 min

303141	32-46	72H	5
WATER WELL REPORT	CURRENT	-77	
Original & 1" cupy - Ecology, 2" copy - owner, 3" copy - driller	Notice of Intent No. W25218	1	•
Construction/Decommission ("x" in circle)	Unique Ecology Well ID Tag No. Ru	122	9
₩ Construction	Water Right Permit No.		
O Decommission ORIGINAL INSTALLATION Notice	Property Owner Name Russ Ben	NY TO	
of Intent Number	Well Street Address 31720 10 +	Dru	J L
PROPOSED USE: Domestic D Industrial D Misnicipal DeWater D Imagainon D Test Well D Other	City Stan was County 5 h		
TYPE OF WORK: Owner's number of well (if more than one)	Location 5 214-1/4 NB4 Sec 2 Twn 32	R4 GW	cirde
R New well D Reconditioned Method: D Dug D Bored D Driven	Lat/Long (s, t, r Lat Deg Lat	WW?	N cue
Dimensions: Diameter of well 5 inches, drilled 200 ft.	COURTON DECLIPED	_	
Depth of completed well 200 ft.	Long Deg Lon		
CONSTRUCTION DETAILS	Tax Parcel No. 010 757 00000	800	Bet .
Casing & Welded 6 Diam. from 6 ft. to 80 ft. Installed: E-Liner installed 5 Diam. from 20 ft. to 200 ft.	CONSTRUCTION OR DECOMMISSION	N PROCEDI	IRE
Threaded "Diam. from ft. io A.	Formation: Describe by color, character, size of material and	structure, and ti	he kind and
Type of perforator used Saw	nature of the material in each stratum penetrated, with at least information. (USE ADDITIONAL SHEETS IF NECES		ach change of
SIZE of perfs 19 in by 4 in. and no. of perfs/100 from 140 ft. 1200 ft.	MATERIAL	FROM	то
Screens: Yes No C K-Pac Location Manufacturer's Name	deant ton top souly	0	2
Type Model No	tan clav	2	10
Diam. Slot size from ft. to ft. Diam. Slot size from ft. to ft.	- Jun Elley		
Gravel/Filter packed: Yes No Size of gravel/sand Materials placed from ft.	ton till	10	14
Surface Seal: E Yes O No To what depth? 20 ft. Material used in seal BEATMON AT CALPS	bray longler mont (+111)	14	20
Did any strata contain unusable water? Yes No Type of water? Depth of strata	CH MYRHOU COURSE GOND	20	67
Method of sealing strara off	tan soft shale	67	86
PUMP: Manufacturer's Name			
WATER LEVELS: Land-surface clevation above mean sea level R.	Gray Sansford 71n2	76	155
Static level 149 h. below top of well Date 62508 /	lover corse sandstone	155	167
Artesian pressure lbs. per square inchr Date	1 1 2 3 5 LAM		
Artesian water is controlled by(cap, valve, etc.)	Gray Zinz Sandstone	167	200
WELL TESTS: Drawdown is amount water level is lowered below static level			
Was a pump test made? If Yes I No If yes, by whom? DUI! \\ Yield: S. S. gal./min. with \(\frac{4}{3} \) ft. drawdown after \(2 \) hrs.		RECI	IVE
Yield: gal/min. with ft. drawdown after hrs.		JUL 2	2-2000
Yield: 2 gal/min. with 1t. drawdown after 15 hrs. Recovery data time taken as zero when pump turned off) (water level measured from well			< 2008
Inp to water.level Time Water Level Time Water Level	Well Flow rot 26-Dm D	EPT. OF	ECOLO
11:50 148 440 153 430 150			
		. 8	
Date of test 63008 min			
Bailer test 5 gal./min. with 40 ft. drawdown after 22 ms.			
Airtestgal/min, with stem set atft. forhrs.			
Artesian flow g.p.m. Date			
Temperature of water Was a chemical analysis made?	Start Date 6 20 08 Complete	d Date 6	2908
White Controllerion Strating Internal	'—————————————————————————————————————		
WELL CONSTRUCTION CERTIFICATION: I constructed and/or acc			nce with all
Washington well construction standards. Materials used and the information	400 1		Gana E
	Address 22813 60th Drive		
Oriller/Engineer/Trainee Signature		2000	
NTRAINEE,	Contractor's A9 ON I NOCCO	= 7	1.00

Ecology is an Equal Opportunity Employer.

Baterrar 32-46-12H 306767 CURRENT WATER WELL REPORT 111252182 Notice of Intent No. Original & I" copy - Ecology, 2" copy - owner, 3" copy - driller Unique Ecology Well ID Tag No. But 2341 Construction/Decommission ("x" in circle) Water Right Permit No. O Construction O Decommission ORIGINAL INSTALLATION Notice Property Owner Name Dim 5120 of Intent Number_ Well Street Address Apt 9 31632 19 + DRNII) D Imigation ☐ Industrial☐ Test Well D Municipal City Stan wood County Shohomish De Water D Other_ Location 514-114 11814 Sec 12 Two 32R 4 EVM sinck TYPE OF WORK: Owner's number of well (if more than one) Kew well | Reconditioned | Method : C. Dug | Bored | S Cable | C. Rotary Driven Lat Deg Lat/Long (s, t, r Lat Min/Sec_ [letted DIMENSIONS: Diameter of well 6 inches, drilled 200h Still REQUIRED) Long Deg Long Min/Sec Depth of completed well 200 ft. Tax Parcel No. 010757 00000900 CONSTRUCTION DETAILS | Pawelded | Communication | C CONSTRUCTION OR DECOMMISSION PROCEDURE Formation: Describe by polor, character, size of material and structure, and the kind and mature of the material in each stratum penetrated, with at least one entry for each change of Perforations: OF Yes D No Type of perforator used . 45 10 16 + 0 10 10 - e SIZE of perfs 3/16 in. by 7 in. and no. of perfs 20 from / 40 ft. to 300 information. (USE ADDITIONAL SHEETS IF NECESSARY.) SIZE of peris 3/16 in by 7 MATERIAL O Yes O No O K-Pac Location 400 501 0 Black Manufacturer's Name _ 4-111 3 tan CONOLOYMANT 14 SILLY SON brown . Stot size Fint Sult Diam. (row) _Stot size from A to 20 Gravel/Fitter packed: O Yes & No O Size of gravel/sand 80 (WY 5 hale Materials placed from Sand Stone 120 Surface Seal: MYes DNo To what depth? 8 8. Material used in seal Ben In The Chip Corse (run sawston 170 ine from Saw Stone Did any strain contain unusable water? Type of water? Depth of strain. Method of scaling strata off _ 7-14-8 PUMP: Manufactorer's Name Type: SOB Cloudy and terbil WATER LEVELS: Land-sufface elevation above mean sea level_ 3 GAM 711try ablfl. below top of well Date 72408 Static level (140) lbs. per square inchr. Date Ball and Rumb 200-4x5 Artesian water is controlled by ._ to change (cap, vative, etc.) WELL TESTS: Drawdown is amount water level is lowered below static level Davids Was a pump test made? Of Yes II No If yes, by whom? _ 3 gal/min. with 22 ft, drawdown after_ pal/min with fl. drawdown after Yield: gal Intin. with fi. drawdown after RECEIVED Recovery data frime taken as zero when pump turned off) (water level measured from well inp to water level) AUG 0 5 2000 DEPT. OF ECOLOGY 75008 Bailer test 5 gal fruin with 60 ft. drawdown after gal Jonin, with stem set at ___ fi...for gp.m. Date Temperature of water ____ Was a chemical analysis made? X Yes II No

Stat 9

TÓ

14

70

80

120

170

200

631 Completed Date 7.31.08 Start Date WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Of Driller O Engineer O Trainee Name Prince County One Organization of the Contract of th Drilling Company A1 Drilling and Digging na Her/Engineer/Traince Signature Address Parox 1207 City, State, Zip 5 to nason riller or trainee License No. Contractor's IFTRAINEE, Registration No. A W 10 10 10 66 1- Date 73/08 Driffer's Licensed No. Driller's Signature Ecology is an Equal Opportunity Employer. ECY 050-1-20 (Rev 3/05)

Spane isto Report. 337795 CURRENT WATER WELL REPORT Notice of Intent No. W268583 Original & 1" copy - Ecology, 2" copy - owner, 3" copy - driller Unique Ecology Well ID Tag No. Bet 466 Construction/Decommission ("x" in circle) S0410 Water Right Permit No. O Construction O Decommission ORIGINAL INSTALLATION Notice Jim Spanie Property Owner Name ___ of Intent Number_ Well Street Address 31628 19th DQMILL C Industrial ☐ Municipal City 5-tonwood County 5 ho) hom 15 h ☐ Test Well Location SE 1/4-1/4 /18 /4 Sec 2 Twn 32 R4 TYPE OF WORK: Owner's number of well (if more than one) New well D Reconditioned Despend Method: D. Dug Dored Cable D Rotary Driven Lat Min/Sec Lat/Long (s, t, r Lat Deg DIMENSIONS: Diameter of well 6 inches, drilled 80 ft. Still REQUIRED) Long Deg Long Min/Sec 80 a Depth of completed well Tax Parcel No. 010 757 000 010 00 Welded 6 Diem from 7
Ciner installed — Diem from — 8
Diem from — 9
Diem from — 9
Diem from — 9 CONSTRUCTION OR DECOMMISSION PROCEDURE Formation: Describe by color, character, size of material and structure, and the kind and Perforations: 12 Yes- 13 No nature of the material in each stratum penetrated, with at least one entry for each change of Type of perforator used Sow information. (USE ADDITIONAL SHEETS IF NECESSARY.) SIZE of perfs 24 in, by 4 in, and no. of perfs 40 from 40 ft. to 80 ft.

Screens: 0 Yes 6 Ho 0 K-Pac Location MATERIAL conclor man 1 to Gravel/Filter packed: D Yes & No Size of gravel/sand 18 Serface Seal: 19 Yes 10 No To what depth? 18 ft.
Material used in seal 8-11-11-11-5 Saw Ston-34 Did any strata contain urassable water? COTSE SOW 36 Depth of strata Type of water?_ Method of scaling strate off_ 44 502)5 to n PUMP: Manufacturer's Name Type: 50 B 10010 RECEIVED WATER LEVELS: Land-Sund celevation above mean sea level . fl. below top of well Date 3 2909 APR 29 2009 Artesian pressure lbs. per square inchy Date Artesian water is controlled by (cap, valve, etc.) Dept of Ecology WELL TESTS: Drawdown is amount water level is lowered below static level WR-NWRO Was a pump test made? DKYes O No If yes, by whom? Pumbtest 2160 ballio Vield: 1.5 gal/min with A. drawdown after 24 gal/min with ft. drawdowo after In a 24 hr Derioi) gal./min. with ft. drawdown after Recovery data (tune taken as zero when pump turned off) (mater level measured from well top to water level) Water Level Date of test gal Amia, with gal/min with siem set at ft, for gp.m. Dete Was a chemical analysis made? A Yes D No

TO

34

36

44

80

Start Date 3 10 0.9 Completed Date WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief. O Driller O Engineer O Trainee Name (Print) Dans David David Author) a Drilling Company 41 Drilling and Digg I Hac The Drilles/Enginees/Traintee Signature City, State, Zip Strineword was Contractor's ITTRAINEE, Registration No. 4 2 DVID 1940 QD Date 4 1904 Driller's Licensed No. Driller's Signature

E			
		-	
	=	3 8	ā
11111	T	1.11	ATE.
000	L	0 (r
Con	25	ru	CLE

WATER WELL REPORT

Original & 1st copy - Ecology, 2nd copy - owner, 3rd copy - driller

ion/Decommission ("x" in circle)

Construction

Driller or trainee License No.

ECV 050.1.20 (Rev 3/05) .

ITTRAINEE,

Driller's Licens Driller's Signature

Decommission ORIGINAL INSTALLATION Notice	Property Owner Name Kruin S	
of Intent Number	Well Street Address ant 11 1911	
PROPOSED USE: Domestic Industrial Municipal DeWater Irrigation Test Well Other	City Stanwood County 5n	ohomis h
	Location 4 6 14-114 1 6 14 Sec 2 Twn 32	R - Gran
TYPE OF WORK: Owner's number of well (if more than one)	Docaton Jean Interpretation	MAN oue
DE New well	Lat/Long (s, t, r Lat Deg Lat	Min/Sec
DIMENSIONS: Diameter of well 6 inches, drilled 223. Depth of completed well 223+2	Still REQUIRED) Long Deg Long	
CONSTRUCTION DETAILS	Tax Parcel No. 010 157 000-	01-00
Casing B Welded C Diam from 6. to 30 ft. Installed: D Liner installed 449 Diam from 5 ft. to 283 ft.	CONSTRUCTION OR DECOMMISSION	PROCEDURE
☐ Threaded Diam. from ft. to ft.	Formation: Describe by color, character, size of material and	
Perforations: © Yes © No. Type of perforator used	nature of the material in each stratum penetrated, with at least	one entry for each change of
SIZE of perfs 3/16 in by 5 in and no of perfs/00 from 1600 to 208	information. (USE ADDITIONAL SHEETS IF NECES	
	MATERIAL	FROM TO
Manufacturer's Name	Dark Broom To Deal	0 3
TypeModel No	210ht fan Sandsit Rocks	12 5
Diam Slot size from ft. to ft. Diam Slot size from ft. to ft.	DAME TO MANAGE MACE	
Cravel/Filter packed: Ses Son Size of gravel/sand	ton conclorment firm	5 25
Materials placed from ft. to ft.	JON TONDIOI MORT -CITT	100
Control of Variation 19	2 110 . 6 . 1512.5	25 40
Surface Seal: E Yes I No To what depth? 19 ft. Material used in seal Ben 1180172 Ch105	71 ne Way sandstone	21 10
		110 110
Did any strata contain unusable water? ☐ Yes ☐ No	cors = irrail sand ston-e	40 42
oe of water? Depth of strata	The second secon	7. 8
thod of sealing strata off	7-in e rvw! sandston &	42 130
PUMP: Manufacturer's Name NO HP	the state of the s	in its in
	tan corse "	130 150
WATER LEVELS: Land-surface elevation above mean sea levelft.		-2011
Static levelft_ below top of well Date	Fine Irvai	150 180
Artesian pressure ibs. per square inchr Date		The Landson
Artesian water is controlled by	CARCLE LIVEL	180 185
(cap, valve, etc.)		
WELL TESTS: Drawdown is amount water level is lowered below static level Was a pump test made a level level of yes, by whom? Daul V >	FINE UVILLE	185 223
Yield: 8 gal/min with 35 ft drawdown after hrs.	1 18 8010	
Yield: 8 gal/min with 8.5 ft. drawdown after / brs.	1. hour inBetweet Bo	11 1745
Xield: gal/min. with ft. drawdown after hrs.	Y	11/2
Receivery data (time taken as zero when pump turned off) (water level measured from well top to water level)	19 2010	10
Time Water Lavel Time Water Lavel Time Water Lavel	はなからのあるかってんちょう	874 (E34)
Octob 1 12 See of Marine Jane 1	2000 2000 2000 2000 200	
	7/00 mt 2 to 2, \$1 6	12m
Data of Sect	071/100	710
Date of sest	rechara rate : 5/0005	6/21/02/5
Bailer lest 8 gal/min, with 35 ft. drawdown after hrs.	after 300 billion 5	W 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Aircest gal/min; with stem set at ft. for hes.	CEAST SOUTHINKS	
Artesian flow g.p.m. Date	15 1	
Temperature of water Was a chemical analysis made? QCYes D No	Start Date 1 6 2010 Completed	Date 120 2010
	Jonipales -	

CURRENT

Sundoers Lat 11

Notice of Intent No. U1268920

Water Right Permit No.

Unique Ecology Well ID Tag No. But 4192

City, State, Zip_

Contractor's

Stan wood

AIDYIDIQUARE Date 120 2010

Ecology is an Equal Opportunity Employer.

	1 / i=3
	Gileri lot iz
371709	30-48-2h
WATER WELL REPORT	CURRENT
	Notice of Intent No. W268921
8 C 0 L 0 C)	Unique Ecology Well ID Tag No. 27-6191
Construction/Decommission ("x" in circle) © Construction	Water Right Permit No.
O Decommission ORIGINAL INSTALLATION Notice	Property Owner Name Keuin Sund Bang
of Intent Number	Well Street Address Lot 12 19th Drue NW
PROPOSED USE: Domestic Industrial Municipal	
□ De Water □ Irrigation □ Test Well □ Other	Citystanward County Snotom is h
TYPE OF WORK: Owner's number of well (if more than one)	Location SB14-1/4UB14 Sec 2 TwiBQR 7 Girds circle
New well Reconditioned Method: Dug D Bored Driven	Lat/Long (s, t, r Lat Deg Lat Min/Sec
DESCRIPTION DISTRICTOR OF WELL OF INCHES, drilled 27 62.	
Depth of completed well 27 6 A	Still REQUIRED) Long Deg Long Min/Sec
CONSTRUCTION DETAILS	Tax Parcel No. 10757 000 012 00
Casing Newelded 6 Diam from 4/ ft. to 30 ft.	•
Casing B. Welded B Diam. from 41 ft. to 30 ft. Installed: D.Liner installed 42 Diam. from 10 ft. to 27 G ft. Diam. from ft. to .ft.	CONSTRUCTION OR DECOMMISSION PROCEDURE
Perforations: Ves 🗆 Na	Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of
Type of perforation used 52 CU SIZE of perfs 3112 in: by 4 in. and no. of perfs 103 from 170 ft. to 1.76	information. (USE ADDITIONAL SHEETS IF NECESSARY.)
Screens: D Yes A No D K-Pac Location	West Lines 10
Manufacturer's Name	tun conclument 6 26
TypeModel No	Firm Conclorman 5 6 26
Diam. Slot size from ft-to ft. Diam. Slot size from ft. to ft.	Fine owall Bandstore 26 76
Gravet/Filter packed: D Yes & No D Size of gravel/sand	
Interials placed from ft. to ft.	corg = Gray San Stone 76 86
iurface Seal: Y Yes D No To what depth?ft.	
Material used in seal Bell 1100 The Did any strata contain unusable water? Yes No	Fine bray Sandstone 86 170
Type of water? Depth of strata	COXA-E (Way Sand & tone 170 176
Method of scaling strata off	CO13+ (Na/3a/04/01) //0 ///6
UMP: Manufacturer's Name NO	7+11 x (5vey gan) 5001 - 17 276
ype:H.P	·
WATER LEVELS: Land-surface elevation above mean sea level ft.	OFO FORM
Static level 10 ft. below top of well Date 182010 Artesian pressure lbs. per square inchr Date	PECEIVED DEPARTMENT OF ECOLOGY
Artesian water is controlled by	DEFAITIVENT OF HOOLOG
(cap, valve, etc.)	MARCHINED) MAR 2 5 2010
VELL TESTS: Drawdown is amount water level is lowered below static level /as a pump test made? □ Yes No If yes, by whom?	100000000000000000000000000000000000000
vas a pump test made? If tes gs No It yes, by whom? (ield: gal./min, with ft. drawdown after hrs.	JAN 26 20 WATER RESOURCES PRUGRA
ield: gal /min with ft, drawdown after hrs.	NWRO
covery data (time taken as zero when pump turned off) (water level measured from well	Oeptof Ecology RECEIVED
p to water level)	WR-NWPO
ime Water Level Time Water Level Time Water Level	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	well produce 16-500 DECOING.
latter test 10 gal Jmin. with 176 ft. drawdown after 17 211	Construction From NRA MARCO
tailer test O gal Jmin. with 176 ft. drawdown after 7 22 hirrest gal./min. with stem set at ft. for has.	1. ASD AL
Bailer test Ogal min. with 176 ft. drawdown after 172111 Airnest gal./min. with stem set at ft. for has. Artesian flow gp.m. Date	Construction From NAMED & 48 hours 4 hour Pail testet 16pm purry
Bailer test 10 gal min. with 176 ft. drawdown after 1721	1. ASD AL

Driller | Engineer | Trainee Name Print | DAUI |
Driller/Engineer/Trainee Signature City, State, Zip Stan wood Driller er trainee License No. 1297 If TRAINEE, Driller's Licensed No. Driffer's Signature Ecology is an Equal Opportunity Employer. File Original and First Copy with Department of Ecology Second Copy — Owner's Copy Third Copy — Driller's Copy

VATER WELL REPORT

STATE OF WASHINGTON

Application No. .. Permit No.

(1) OWNER: Name Don Neff	Address Tyes Rd Conway Hill.	His V	ernor
LOCATION OF WELL: County Stanff	- SE W NWW Sec 20 TO	AN R	A. wa
ling and distance from section or subdivision corner	The state of the s		
3) PROPOSED USE: Domestic [] Industrial [] Municipal []	(10) WELL LOG:		i
frrigation Test Well Other		al and structhe materia	cture, an
4) TYPE OF WORK: Owner's number of well (if more than one)	MATERIAL	FROM	TO
New well D Method: Dug D Bored D	Candy tougat1	0	4
Deepened Cable Driven Reconditioned Rotary Jetted	m 1 à 1	. 4	i.5
	Grav clay & gravei	15	راذ،
5) DIMENSIONS: Diameter of well inches.		80	94
Drilled 338 ft. Depth of completed well 338 ft.	Gray gravel, clay, sand, & sec-		
) CONSTRUCTION DETAILS:	page / clamshells	92	123
	Gray sandstone	125	130
Casing installed: 6 "Diam. from +2 ft. to 123 ft.	Brown siltstone & scattered clau-		
Threaded	shells	130	210
	Gray sandstone - Water (?) 1.5 g	m 210	235
Perforations: Yes No No N	Brown siltstone	235	245
Type of perforator used	Gray fine sandstone	245	290
SIZE of perforations in, by in.	Coal	290	291
perforations from ft. to ft	Brown siltstone	291	311
perforations from ft. to ft.	Coal	312	31.2
	Brown siltstone	312	. 316
Screens: Yes No 🖺	Gray xxix siltstone	316	
Manufacturer's Name Model No.	•		
Diam. Slot size from ft. to ft.			
Diam. Slot size from ft. to ft.			
Gravel packed: Yes O No D Size of gravel;			
Gravel placed from ft. to ft.		4	
Surface seal: Yes No To what depth? 18 ft.			
Material used in seal Puddeling Clay			
Did any strata contain unusable water? Yes 🗆 No 🖸		-	
Type of water? Depth of strata			
Method of sealing strata off		10 mm	73
PUMP: Manufacturer's Name Bestaly	I have been the control of the	1103	
Туре: 44119 НР 1			<u> </u>
WATER LEVELS. Land-surface elevation	MAY 1 2 19	87 4	
above mean sea level ft.			
tic level 85 tt below top of well Date 7/6/81 tesian pressure bs. per square inch Date		- M	M
Artesian water is controlled by	1.2/-112	. 4.75711	
(Cap, valve, etc.)			
WELL TESTS: Drawdown is amount water level is	21/ 44	1	
lowered below static level is a pump test made? Yes No [3] If yes, by whom?	Work started 7/6 1931 Completed	/	, 19
ld: gal/min. with ft. drawdown after hrs.	WELL DRILLER'S STATEMENT:		
19 19	This well was drilled under my jurisdiction a	and this r	eport i
and the state of t	true to the best of my knowledge and belief.	WALLE E	-2-4 4 44
covery data (time taken as zero when pump turned off) (water level measured from well top to water level)			
measured from well top to water level) ime Water Level Time Water Level Time Water Level	NAME Bayes Well Drilling & Fun (Person, firm, or corporation) (7	IDH , J. 11	
	Address 1413 Colony Rd.	Liow	
	Address 1913 Colony Rd.	7	. 2
Date of hard	L Moine Will	100192	1/
Date of test 2 gal/min, with ft. drawdown after hrs.	[Signed] (Well Driller)	E.	·····
esian flow		_	
nperature of water	License No. 762 Date 12/4	3	19.11

27/01

File Original and First Copy with Department of Ecology Second Copy - Owner's Copy Third (Copy - Driller's Copy

WATER WELL REPORT

Notice of Intent W151526 19
UNIQUE WELL I.D. # ABD271

ond Copy - Owner's Copy
of Copy - Driller's Copy
of Copy - Driller's Copy

Water Right Permit No.

(1) OWNER: Name Monte Ruble	Address 21614 Tyee Rd, MtVernon, WA 98274		
	· NE 1/4 NE 1/4 Sec 27 T.		AE WM
STREET ADDRESS OF WELL (or negrest address) same	THE DE	- 100	
TAX PARCEL NO.	33/45-27	AI	
(3) PROPOSED USE: Xi Domestic Industrial Municipal		HOT OFOR	APPROAL.
(3) PROPOSED USE: Xi Domestic Industrial Municipal Iterative Teat Well Other	(10) WELL LOG or DECOMMISSIONING PROCED! Formation: Describe by color, character, size of material and structure.		
DeWater	nature of the material in each stratum penetrated, with at least one entry		
(4) TYPE OF WORK: Owner's number of well (If more than one)	of information. Indicate all water encountered.		
New Well Method:	MATERIAL	FROM	то
Despened Dug Bored	topsoil	0	1
Reconditioned Cable Driven	brown sandy clay	1	20
Decommission X Rotary Jetted	gray sandy clay	20	40
(5) DIMENSIONS: Diameter of well 6 Inches.		40	51
Drilled 340 feet. Depth of completed well 340 ft.	gray sandstone	51	84
(6) CONSTRUCTION DETAILS:	prown siltstone	75	110
Casing installed;	gray sandstone water 1/2gpm	110	111
XI Welded 5 " Diam. from +2 ft to 58 ft.	gray sandstone	111	124
X Liner installed 4 " Diam. from 40 ft. to 340 ft.	brown sittstone soft	124	134
Threaded "Diam. from ft. to ft.	gray sandstone	134	151
Perforations: XYes No	brown sittstone soft	151	160
Type of perforator used drill	gray sandstone	180	210
SIZE of perforations 1/4 in. by 1/4 in.	No. 1	210	216
4 perforations from 110 ft to 111 ft		216	269
4 perforations from 270 ft to 271 ft.	gray course sandstone water 1gpm	259	270
perforations from ft. to ft.	gray course sandstone	270	298
	gray course sandstone water	298	299
Screens: XYes No K-Pac Location	gray course sandstone	299	321
Manufacturer's Name monoflex	gray sandstone	321	
Type pvc . Model No.			
Diam. 4 Slot size 20 from 310 ft. to 320 ft.	shale trap 109		
Diarra. Slot size from fit to fit.			
\ravel/Filter packed: ☐Yes X\No ☐ Size of gravel/sand	shale trap 160	-	
Asterial placed from ft. to ft.			
Advisor By Chr. Tolanda		REC	EIVE
Surface seal: XYes No To what depth? 18 ft. Misterial used in seal bentonite	Located in compliance with sec 12-48 supplie	1.	
Did any streta contain unusable water? Yes KNo	by information supplied by owner.	-NOI	1 4 200
Type of water? Deoth of strate	by intermation supplied by owner.		~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~
Method of sealing strata off		DEPTO	F.ECOL
	02211	1	I-LUUL
7) PUMP: Manufacturer's Name	03211		
Type: H.P.			-
B) WATER LEVELS: Land-surface elevation			
(457 MSL) above mean sea levelft	Work Started 10/02/2002 . 19. Completed 10/	28/2002	. 19
Static level 63 ft. below top of well Date 10/31/2002	WELL CONSTRUCTION CERTIFICATION:		
Artesian preseure lbs. per equere inch Date	1 constructed and/or accept responsibility for construction	of this well a	nd its
Artesian water is controlled by	compliance with all Weahington well construction standard		
(Cap, valve, etc)	and the information reported above are true to my best kn	owledge and i	belief
9) WELL TESTS: Drawdown is amount water level is lowered below static level		1 7 7	
Was a pump test made? XYes No If yes, by whom? Aquatech		nee No. 182	5
Yield: 9.6 pel.fmin. with 467 ft drawdown after 5 hrs.	(Licensed Driller/Engineer)		
Yield: os gal.fmin. with 72 ft. drawdown after 5 hrs.	Trainee Name Licer	nse No.	
Yield: 3 gal./min. with 0 ft, drawdown after 4 hrs.	Drilling Company Aquatech Well Drilling & Pums	os Inc	
	3 ///		
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)	(Signed) COn W/ Ligar	nse No. 182	K
Time Water Level Time Water Level Time Water Level	(Gorded Driffer/Engineer)		
0 269 1 265.5 2 261			
3 259.5 4 257.1 5 254.9	APPLE STREET STREET STREET		
10 244.4 15 233.6 30 204.2	Registration No. AQUATWD040K4 Date 11/	08/2002	. 19
Date of test 11/07/2002	ALL STATE OF THE S	MILENINE	
Bailer tool gel/min, with ft. drawdown after has	(USE ADDITIONAL SHEETS IF NECE	SSARY)	
Virteet 3 gel/min. with stem set at 335 ft. for 1 hrs.	Ecology is an Equal Opportunity and Affirmative Actio		For
tesian flow g.p.m. Date	special accommodation needs, contact the Water Res		
emperature of water Was a chemical analyses made? Yes No	(360) 407-6600. The TOD number is (360) 407-6006.		

03 1901 275 SMSL

37/4-3 R

File Original and First Copy with Department of Ecology Second Copy—Owner's Copy

WATER WELL REPORT

Start Card No. ____

Thir	d Copy—Oriller's Copy	WASHINGTON Water Right Farmet No. 32/48	-31	1
-	OWNER: Name 12 1 1 7 3 has firstling	Address 25/4/ 31/11	5,70	1
(2) (2a)	STREET ADDRESS OF WELL (or nearest address)	3/200 ST AF SKINK	i.) _{N., R}	w.m
(3)	PROPOSED USE: Domestic Industrial I Municipal I Test Well I Other	(10) WELL LOG OF ABANDONMENT PROCEDUS Formation: Describe by color, character, size of material an	. 1	
(4)	TYPE OF WORK. Owner's number of well	thickness of aquifers and the kind and nature of the material in ea with at least one entry for each change of information.	ich stratum	penetrated
	Abandoned New well Method: Dug Bored	MATERIAL	FROM	то
	Despend Cable Driven Reconditioned Rotary J- Jetted	10%) 500.1	0	- 1
(5)	Drilled feet. Depth of completed well soon ft.	Burn 1891 squarel	1	5//
(6)	CONSTRUCTION DETAILS:	Breeze Satarti lane	₹2°	
(0)	Casing installed: Diam. from tt. to Diam. from tt. to Diam. from tt. to	Gray Estent lower	530	.4%.
	Threaded Diam. from ft. to ft.	shalf dad how	16.1	147
	Perforations: Yes No Type of perforator used	Gras Smedstone	185	290
	SIZE of perforations in. by in. by perforations from ft. to ft.	Shote duck herin	340	.)00
	perforations fromft. toft.			
	perforations fromft. tott. Screens: Yes No	Grand Sands line	245	J.y.s
	'Agnufacturer's Name	Under borney sinditare	A \$385	
v	pe Model No		7 (
	DiamSlot size	1		
	Gravel placed from		: 	
	Surface seal: Yes No To what depth?	4		
	Oid any strata contain unusable water? Yes No		- 1	7 -
	Type of water?Depth of strata Wethod of sealing strata off	1		100
7)	PUMP: Manufacturer's Name 5/1/1			: •
	Type: H.P. H.P. H.P. H.P. H.P. H.P. H.P. H.P			
1	WATER LEVELS: Lanc-surrace elevation above mean sea level elevel ft. letters f			
1	rtesfan pressurelbs. per square Inch Date			
	Artesian water is controlled by (Cap, valva, atc.))		,	- 40
٧	WELL TESTS: Drawdown is amount water level is lowered below static level Vas a pump test made? Yes No I fyes, by whom? Teld:	WELL CONSTRUCTOR CERTIFICATION:		
		I constructed and/or accept responsibility for constr and its compliance with all Washington well const	truction s	tandards.
fi	secovery data (time taken as zero when pump turned off) (water level measured on well top to water level) me Water Level Time Water Level Time Water Level	Materials used and the information reported above a knowledge and belief.	re true to	my best
		NAME (PERSON, FIRM, OR CORPORATION) Address	(TYPE OR	PRINT)
	Date of test			-
	aller testgal./min. withft. drawdown afterhrs.	Contractor's (WELL DRILLER)		
	rtesian flowg.p.m. Date	Registration No. Date		, 19
	emperature of water Was a chemical analysis made? Yes No	(LISE ADDITIONAL SHEETS IE NECESS.	ARY	

Re
Well
this
uo
Information
the
and/or
Data
96
T Warrar
NOT
does
Ecology
it o
rtme
Jepa

	k. "ER NE	LL REPORT Start lars No. 076561
-	STATE OF	LL REPORT Start (art Mt. 076561 MASHINGTON Mats Right Despit Mg.
	STATE OF (1) OWNER: Name NICHOLSON, BILL Address 101	9 WARREN STREET MOUNT VERHOR, WA 98273-
7.	O. IN ATTOM OF MELL CAMPLE CHOMPAGE	Au 1/2 we say a series and a se
	ti totalion of acti conicy paparinish	. 94 1/4 NE 1/4 965 3 1 9% 4' K 45 MM
	171 BARAGE UCC. BALPAGE	minimum minimu
	131 PROPUSED USE: DUMESTIC	1110) NELL 106 32/45-361
	141 TYPE OF NORK: Owner's Humber of well	Formation: Describe by color, character, size of material
	MEM WELL (If more than one) 1	and structure, and show thickness of prufers and the kind
	The state of the s	formation: Describe by color, character, size of Esterial and structure, and show thickness of shuffers and the kind and nature of the material in each stratum benetrated, with at least one entry for each change in formation.
	(51 DIMEMSIONS: Diameter of well 6 inches Drilled 260 ft. Depth of completed well 260 ft.	WAICGIAL A POAR A PA
		MATERIAL TO TO
	(6) CONSTRUCTION DETAILS:	ABAY ALAY ABEELAN
	Tasing installed: 6 Dia. from +3 ft. to 87 ft. WELDED 4 Dia. from 260 ft. to 60 ft. Dia. from ft. to ft.	: GRRY GRRYFI & SRRF CLOY
	Die. from ft. to ft.	GRAY GRAVEL & CLAY 40 44
	Perforations: YES	, dut cent
	Type of perforator used SKILL SAW	TAN CLAY & SCATAD. GRAY. 49 58 62 62 63 64 64 65 65 65 65 65 65
	80 perforations from 240 ft to 260 ft	GRAY GREEN SANDSTONE
	perforations from ft. to ft.	GRAY SANDSTONE & CLAM SHELLS 103 132
	Type of perforations used SKILL SAW SIZE of perforations 1/8 in. by 6 in. 80 perforations from 240 ft. to 260 ft. perforations from 1t. to ft. perforations from 1t. to ft.	GRAY SANDSTONE
	Nanufacturer's Name	GRAY SILTSTONE 178 204 207 GRAY BROWN SILTSTONE CLAM SHELLS 207 212
	Dian. slot size from ft. to ft.	GRAY BROWN SILTSTONE CLAM SHELLS 201 212 GRAY SANDSTONE 2 WATER 252 254
	Namufacturer's Name Tyre rodel No. Diam. slot size from ft. to ft. Diam. slot size from ft. to ft.	GRAY SAMOSTONE & MATER 252 254
	Gravel packed: NO Size of gravel gravel placed from ft. to ft.	GRAY HARD SANDSTONE 254
	Gravel placed from ft. to ff.	
	Surface seal: YES To what depth? 18 ft.	į i .
	Material used in seal PUDDELING CLAY	
	Oid any strata contain unusable water? HO Type of water? Genth of strata ft	i
	Type of water? Depth of strata ft. Method of sealing strata cff	
	17: PUMF: Manufacturer's Name	i i i
	Tune un	
	(S) WATER EVELS: Land-surface elevation	
	(S) WATER _EVELS: Land-surface elevation above wean sea level it. Static level 15 ft. below top of well Date 03/04/91 Artesian Pressure lbs. per square inch Date	
	Static level 15 ft. below top of well Date 03/04/91	
	Artesian water controlled by	
	-	Nork started 02/28/91 Completed 03/04/91
	191 MELL TESTS: Drawdown is amount water level is lowered below	WELL CONSTRUCTOR CERTIFICATION:
		I constructed and/or accept responsibility for con- struction of this well, and its compliance with all
	Nus a puop test made? NO If yes, by whom? Yield: gal./min with ft. drawdown after hrs,	, washington well construction standards. haterials used
		and the information reported above are true to my test
	Recovery data	knowledge and belief.
	Time Water Level Time Water Level Time Water Level	NAME HAYES DRILLING, INC.
		(Person, firm, or corporation) (Type or crint)
	Date of test / /	ADDRESS 556 ERSHIG RD. , BOW, WA
	Bailer test gal/min, ft, drawdown after hrs.	(SIGHEO) En leerse No. 1825
	Air test 12 gal/ain, u/ stem set at 255 ft. for 1.5 hrs.	
	Artesian flow g.p.m. Date samperature of water Was a chemical analysis made? NO	Contractor's Registration No. HAYESDIJO6J5 Gate 01/14/91
:	22 a 54002542 GRG1712 B406: NV	
		1331

CKY OD Inventored well

See CK400 Whelbroks for inver

03 AD1 03 NOT

File Original and First Copy with Department of Ecology Second Copy — Owner's Copy Third Copy — Driller's Copy (\$1750 Application No. WATER WELL REPORT Permit No. ... 1221623 STATE OF WASHINGTON Address Sally Chinard Carlow Il (1) OWNER: Name William LOCATION OF WELL: County 1 14 11 14 Sec. T. N. R. W.M. ag and distance from section or subdivision corner (10) WELL LOG: (3) PROPOSED USE: Domestic | Industrial | Municipal | Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation. Irrigation | Test Well | Other (4) TYPE OF WORK: Owner's number of well MATERIAL. FROM TO Method: Dug New well Bored D Cable Deepened Driven [] ANSAUN LOW MALLOW GRAVE Reconditioned [Rotary D Jetted [(5) DIMENSIONS: Diameter of well ... inches MUS HARO PAN 7. Drilled 20 ft. Depth of completed well 470 ft. SOLE GRAVE ANDOS TELVE MEU GENY SANDS TONSE + 27 (6) CONSTRUCTION DETAILS: WATER Casing installed: ___ Diam. from ___ ft. to 120 ft. " Diam. from ____ ft. to ___ Threaded [7] Welded [3]" Diam. from ft. to Perforations: Yes | No [2] Type of Derforator used production and production of the production of t SIZE of perforations in. by .. . in ... ft. to perforations from perforations from ft. to ft. __ ft. to .. perforations from Screens: Yes | No [5] Manufacturer's Name... ... Model No... Type... Diam. ____ ft. to ____ ft. to ____ Diam. Slot size ____ from ___ ft, to ____ Gravel packed: Yes No D Size of gravel: _ Gravel placed from ft. to . Surface seal: Yes No To what depth? ft. Did any strata contain unusable water? No D Type of water?..... Depth of strata.... Method of sealing strata off.... MILE. (7) PUMP: Manufacturer's Name...... ... H.P. Land-surface elevation above mean sea level.... (8) WATER LEVELS: ft below top of well DateIbs. per square inch Date.... Artesian pressure ... REPARTMENT. Artesian water is controlled by (Cap, valve, etc.) NO STAWEST Drawdown is amount water level is lowered below static level (9) WELL TESTS: . 1922 Completed. Was a pump test made? Yes [] No [] If yes, by whom?... WELL DRILLER'S STATEMENT: Yield: gal/min. with ft. drawdown after hrs. .. This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief. 10 Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level) 11(11) Water Level | Time Water Level | Time Water Level (Person, firm, or corporation) (Type or print) ate of test . paller test ____gal/min, with ____ft. drawdown after_ [Signed] g.p.m. Date. ()(.11 License No..... ... Date..... Temperature of water................ Was a chemical analysis made? Yes [] No [];

02151 .

File Original and First Copy with

Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

LISING 1220 1221641 STATES 605 MSL Application No. Permit No. 33209 WYSE VALVETONGER (1) OWNER: Name 727,000,000 LOCATION OF WELL: County.... - M Sec T N, R WN ing and distance from section or subdivision corner (10) WELL LOG: 32/45 (3) PROPOSED USE: Domestic E Industrial [] Municipal [] Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation. Irrigation | Test Well | Other (4) TYPE OF WORK: Owner's number of well (if more than one).... MATERIAL FROM New well [] Method: Dug [] Bored [] 10,3 5014 Deepened 'n Cable | Driven | Reconditioned [Rotary . Jetted | MODY THIN LOOM Diameter of well ____ (5) DIMENSIONS: Drilled ft. Depth of completed well / ft. ではあれるまでのとん (6) CONSTRUCTION DETAILS: Casing installed: __ " Diam. from __ ft. to __ ft. " Diam. from ft. to ft. Threaded [7] Welded Perforations: Yes | No | Type of perforator used.... SIZE of perforations _____ in, by in. ... ft. ... perforations from _____ ft. to ____ ft _____ perforations from _____ ft. to ____ Screens: Yes O No D Manufacturer's Name..... Туре Model No ... Slot size from ft. to Dlam. __ from ____ Diam. Slot size ft. to .. Gravel packed: Yes | No | Size of gravel: ... Gravel placed from ft. to _ ft. Surface seal: Yes No D To what depth? Did any strata contain unusable water? Yes Type of water? Depth of strata Method of sealing strata off. (7) PUMP: Manufacturer's Name Type: (8) WATER LEVELS: Land-surface elevation above mean sea level.... Static level ______ft. below top of well Date._____ Artesian pressure _____lbs, per square inch Date__ Artesian water is controlled by (Cap, valve, etc.) Drawdown is amount water level is lowered below static level (9) WELL TESTS: Work started 19 Completed Was a pump test made? Yes [No [] If yes, by whom?... WELL DRILLER'S STATEMENT: Yield: gal./min. with ft. drawdown after hrs. This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief. Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level) NAME (Person, diren, or corporation) (Type or print) Time Water Level | Time Water Level | Time Address Mark Com July R. Chrystols NOV 1 8 1985 Jate of test [Signed] (Well Driller) sailer test gal/min. with ft. drawdown after PUTTINENT OF FCOLOGY Artesian flow..... ____g.p.m. Date..... License No. 2017 Date

3

Second Copy Downer Copy	WASHINGTON 21657 Permit N	MEILA
1) OWNER: Name Total Market	TRATE CHARLE	d rel Mt
	Addres & AD SINEOU	11
Bearing and distance from section or subdivision corner	Secularity Secularity	r.35N, R. 4WM.
P DESCRIPTION ASSESSED FOR SECTION OF SUDDIVISION COURSE	Transport 25/116 31	101
(3) PROPOSED USE: Domestic [9 Industrial Municipal [17]
Irrigation Test Well Other	Formation: Describe by color, character, size of mat show thickness of aquifers and the kind and halure stratum penetrated, with at least one entry for eac	of the material in each
(4) TYPE OF WORK: Owner's number of well	MATERIAL	FROM TO
New well D Method: Dug D Bored D	Val sal	0 5
Decpened Cable Driven Cable Reconditioned Reconditioned Cable Retary Cable Cab	1 . /	-
(5) DIMENSIONS: Diameter of well Confidence	Blown sandy clay	2 20
(2) LOCATION OF WELL: County ACT	Francische clar	30 40
(6) CONSTRUCTION DETAILS:	- Variable of the second	1
Cooling Installed 6	Sandstone	40 420
Casing installed: 6 Diam from 6 ft. to 7 ft. Threaded 6 Diam from ft. to ft.		
Welded D Plam. from		
7 1 1 1		
Perforations: yes No		
Type of perforation used		
perforations from		
perforations from		+
perforations from ft. to ft.		1.
Screens: Yes D No D		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Bianufacturer's Name		
Dism. Slot size from ft. to ft.		1 69
Diam Siot size from ft to ft.		
Gravel packed: Yes No. 12 Size of gravel:		
Gravel packed: Yes No. Size of gravel: Gravel placed from 1t. to 1t. Surface seal: Yes No 1 Townat depth? 1t. Material used in seal. Did any strata contain unusable water? Yes No 2 Type of water? Method of sealing strata off. (7) PUMP: Manufacturer's Name 1 Type: H.P. (8) WATER LEVELS: Land-surface elevation above snean sea level		
Surface seal: Yes No [] Townst depth? ft.		
Material used in seal	}	-
Did any sirata contain unuashle water? Yes [] No [] Type of water?		
Method of sealing strate off	nel nel	
on Drivers.		
(7) PUMP: Manufacturer Name 504-Cofe Type: 500 HP 15	UU	2 1000
A J New companion of the control of	00	1 1 2 1989
(8) WATER LEVELS: Land-surface elevation above mean sea level		=======
100	DEPARTM	ENT OF ECOLOGY
Artesian pressure	NORTH	INVEST REGION
(Cap, valve, etc.)		-
(9) WELL TESTS: Drawdown is amount water level is lowered below static level	1.11.6.00	15/4/2 188
Was a pump test made! Yes No & II yes, by whom?	Work started MULY D. 19 8 7 Completed S	JULY 15 10.01
Yield: gal/min. with ft. drawdown after hrs.	WELL DRILLER'S STATEMENT:	
40 40 to 80	This well was drilled under my jurisdiction	and this report is
(9) WELL TESTS: Drawdown is amount water level is lowered pelow static level Was a pump test made? Yes No Bit yes, by whom?. Yield: gal/min. with ft. drawdown stier hrs. Recovery data (time taken as zero when pump turned off) [water level measured from well top to Water level] Take Water Level Time Water Level Time Water Level	true to the best of my knowledge and belief	111 /
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)	HADEPERA I	eilling (0)
I'sme Water Level Time Water Level Time Water Level	(Person, firm, or corporation)	(Type or print)
France: France: Conservatives properties of the conservative of th	7412-2046 V	16 Ael
1. 1 and 1. 211-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	Address	
S. Date of feet	round for the	· ·
Boltoniest gal/min, withft drawdown afterhre.	[Signed] (Wall Driller)	**************************************
Artesian flow	1367 m 10	1 12 189

100724

1/4

100724

Notice of Intent W135810

Department of Ecology Second Copy - Owner's Copy Third Copy - Driller's copy STATE OF W.	ASHINGTON Water Right Permit No.	D.#_AFP9		
(1) OWNER: Name John & Micheale Yengich	Address 23734 Fremali Lane, Mt. Vernon, WA 9			
LOCATION OF WELL: County Skagit (2a) STREET ADDRESS OF WELL (or nearest address) same TAX PARCEL NO.	- SE 1/4 SW 1/4 Sec 34 T	THE RESERVE OF THE PERSON NAMED IN	E WM	
(3) PROPOSED USE: X Domestic Industrial Municipal Ingation Test Well Other	(10) WELL LOG or DECOMMISSIONING PROCEI Formation: Describe by color, therecter, exce of material and structure righter of the material in each stratum penetrated, with at feast one or of information. Indicate all water encountered.	, and the land and		
(4) TYPE OF WORK: Owner's number of well (if more than one)	MATERIAL	FROM	TO	
Despend Dug Bored	topsoil	0	2	
Reconditioned Cable Driven	brown clay gravel	2	15	
Decommission X Rotary Jetted	gray clay gravel	15	26	
(5) DIMENSIONS: Diameter of well 6 inches	granite boulder	26	27	
Onited 500 feet Depth of completed well 500 . R	gray gravel clay	27	44	
	brown clay gravel	44	51	
(6) CONSTRUCTION DETAILS:	gray clay gravel	51	62	
Casing installed: Welded	gray sandstone	62	70	
[X] mer metalled A " Dram from .40 ft to 500 ft	gray sandstone shells	70	79	
X Threaded Diam. from ft. to ft	gray sandstone brown slitstone	90	90	
	gray sandstone	95	123	
Perforations: Yes XNo	brown sandstone shells	123	131	
Type of perforator used SIZE of perforations In by In	gray sandstone	131	134	
perforations from ft. to ft.	brown siltstone	134	135	
perforations from the to the	gray sandstone	135	170	
perforations from fit to fit	brown slitstone shells	170	174	
perioration notif	gray sandstone	174	211	
Screens: XYes No K-Pac Location	brown siltstone	211	221	
Manufacturer's Name Monoflex	brown fine sandstone	221	227	
Type s.s. Model No	gray fine sandstone	227	248	
Dism 4 Slot size 20 from 250 ft to 260 ft	gray fine sandstone .25gpm	248	252	
Diam 4 Slot size 20 from 450 ft to 460 ft	brown silt stone	252	255	
Gravel/Filter päčked: Yes XNo Size of gravel/sand	brown sandstone	255	265	
Material placed from ft. to ft.	gray fine sandstone	265	279	
	brown fine sandstone shells	279	280	
Surface seal: Yes XNo To what depth?tt.	brown fine sandstone sittstone layers	280	301	
Material used in seal	black basalt	301	302	
Did any strata contain unusable water? Yes X No	brown siltstone layered basalt	302	314	
Type of water? Depth of strata	gray fine sandstone	314	393	
Method of seeing strate off	gray course sandstone shells	393	407	
7) PUMP: Manufacturer's Name	gray fine siltstone	407	421	
Туре НР	black basalt Continued on next page	421	427	
8) WATER LEVELS: Land-surface elevation ebove mean sea level ft Statio level 184' ft below top of well Data 07/26/2001	Work Started 07/18/2001 , 19 Completed 07	/21/2001	. 19	
Artesian pressure Ibs per square inch Date Artesian water is controlled by (Cap, valve, etc)	I constructed and/or accept responsibility for constructed compliance with all Washington well construction stands and the information reported above are true to my best to	arda Materials u	ised	
WELL TESTS: Drawdown is amount water level is lowered below static level Was a pump test made? Yes No If yes, by whom? Yield: gal/mm with ft drawdown after hs	(Licansed Onflet/Engineer)	ense No 2146	1	
Yield gal/min with ft drawdown after hrs. Yield gal/min with ft drawdown after hrs.	Drilling Company Aquatech Well Drilling & Pun	anse No		
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)	(Signed) Wall Good License No 2146			
Time Water Level Time Water Level Time Water Level	Address 2722 butler Crk Rd SedroWoolley V	/a 98284		
Date of test	Contractor's Registration No AQUATWD040K4 Date 0	8/23/2001	, 19	
Soiler toot and form with & demandance when has	AISE ADDITIONAL SHEETS IE NEC	COMPOSE		

AUG 2 8 2001

g.p.m Date special accommodation needs, contact the Water Resources Program at Was a chemical enalyses made? Yes 300, 200, 407-5660. The TDD number is (360) 407-5005.

Ecology is an Equal Opportunity and Affirmative Action employer. For

DEPT OF ECOLOGY

104 ns - 2/2

ide Onginal and First Copy with spartment of Ecology econd Capy—Owner's Copy Michael DEST STATE OF	ELL REPORT WASHINGTON Water Right Parmit No.	176	653
1) OWNER: Name JACK SPLAGUE	Address 2368 STALBIRD	RO	
LOCATION OF WELL: COUNTY SKAGIT	1111) 5F 35 3	33	1
a) STREET ADDRESS OF WELL (or nearest address)	711	<u>~</u> N., ₽	WW
	71		
PROPOSED USE: Abomestic Industrial Municipal	(10) WELL LOG OF ABANDONMENT PROCEDUR		
	Formation: Describe by color, character, size of material an thickness of aguiters and the kind and nature of the material in a with at least one extry for each change of information.	ch stratu	n penetrated
fit mote their one)	WATERIAL	FROM	1 70
Abandoned New well Malhod; Dug Bored D	Tolson	0	2
Reconditioned	TAN SANDUCLAN	2	10
DIMENSIONS: Diameter of well 6 inches.	HARDEAU	10	20
Drilled 3122 feet. Depth of completed well 362 ft.	SAFT SANDSTONE	20	82
	SANDSTONE	82	31.7
CONSTRUCTION DETAILS:			
Casing Installed: Dlam. from +2 tt. to 82 ft.			100
Wolded Diam. from It. to the			
Threaded D* Diem. fromfr. toft.			
Perforations: Yes No N			
Type of perforator used		10	
SIZE of perforationsin. byin.		1	
perforations fromft. toft.		-	
perforations from th. fo N.			
perforetions fromft. toft.			
Screens: Yes No.			
Menufacturar's Name			
Type Model No	RECEIVED		20.4T-
DiemBlot elzefromft. toft.	KEGETVED		-
Diam. Siol size from ft. to ft.	AUC-0 0 1000		
Gravel packed: Yea No Value of gravel	AUG 2 0 1990		
Gravel placed fromft. toft.	9000	HOPE W	
16	DEPT. OF ECOLOGY		
Surface seat: Yes X No. To what Septiny			_
Material used in seul BENTON ITE			1
Did any atrata contain unusable water? Yes No.			-
Type of water?Dspth of elirata			
Method of easing strate off			
PUMP: Manufacturer's Name GNEUAD FOS			-
Type: SUB HP 1/2			
WATER LEVELS: Land-surface stevation above mean eas level			
Staticievel 60 tt. below top of well Date 8-17-70.		D THE	
Artesian pressure Ibe, per equare inch Date			
Artesian water is controlled by (Cap, valve, etc.))		7	
WELL TESTS: Drawdown is amount water level is fowered below stellic level	Work started 8-14-90, 19. Completed 8	11	1520
Was a pump feet made? Yes No 1 1 yes, by whom?	WELL CONSTRUCTOR CERTIFICATION:		
Vield: gal,/min, with ft. drawdown after ftre.		water -	d abla
H H H	I constructed and/or accept reaponalbility for constr and its compliance with all Washington well const	uction of ruction of	standards.
11 19 15 11	Materials used and the information reported above a	re true t	o my best
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)	knowledge and belief.		
Time WaterLevel Time WaterLevel Time WaterLevel	WALL CAMPAND WELL DRILL	Lie	6
	MAME (PERSON, FRM, OR CORPORATION)	CLALE O	R PRINT)
	DOBON 437 - 554.10	MAG	0 1114
	vonises 1	- VV	VVI
Baller leet ft. drgwdown after ftre.	(Signed) South Men SLicense No	OL	.11

(USE ADDITIONAL SHEETS IF NECESSARY)

				- 12	/ .
	Mold SS Please Print, Eign and return	to the Department of Ecology 3 3	15	271	ni
	APD 1 0 0000	Current	1 <-	011	111
,	Original - Ecology, It copy - owner, 2nd copy -driller	Notice of Intent No. W161054			-
	Construction/Decommission	Unique Ecology Well ID Tag No. AG	C 11811		
	Construction	Water Right Permit No.			
	Decommission ORIGINAL INSTALLATION Notice	Property Owner Name DENISE	JAUT ?		
	of Intent Number	Well Street Address 27644 Rose	Eld.		
	PROPOSED USE: Domestic Industrial Municipal	CityMT. VERNON County 5	KABIT	•	5
	DeWater Trigation Test Well Other	Location NW 1/4-1/4 SW 1/4 Sec 27 Twn 33	R 4 EWA	D circle	10
	TYPE OF WORK: Owner's number of well (if more than one)		WW	M auc	
	New well	- ''II DECLUSED \	Min/Sec_	-	
	DIMENSIONS: Diameter of wellinches, drilled	still REQUIRED) Long Deg Long	ng Min/Sec		ä
	CONSTRUCTION DETAILS	Tax Parcel No. 0118081			
	Casing Welded Diam. from + 2 ft. to 160 ft. Installed Diam. from + 4 ft. to 504 ft.				7
	Installed: Liner installed 44" Diam. from 4 ft. to 504 ft. Threaded	CONSTRUCTION OR DECOMMISSIO	out of the same of		
	Perforations: WYes INO DUC LINER	Formation: Describe by color, character, size-of-material and nature of the material in each stratum penetrated, with at least	one entry for ea	ach change of	
	Type of perforator used 5KILL 50W SIZE of perfs B in. by 3/4 in. and no. of perfs 300 from 40 k to 50 4.	information indicate all water encountered. (USE ADDITION		T.	-
	Screens: Yes No K-Pac Location	TOP SOIL	FROM	TO	1
	Manufacturer's Name	TAN HARD PAN	ī	9	1
	Type	GREY HARD PAN	9	82	1
	Diamft. toft.	GREY CLAY WIGRAVEL	82	86]
	GraveVFilter packed: Yes Mo Size of graveVsand	GREY SAND/ GRAVEL-CLAY	86	97	
	Materials placed fromR. toR.	GREY SILT	97	94	1
	Surface Scal: 2 Yes No To what depth? 18 1.	SAND WOOD SOME WATER	94	98	-
	Material used in seul	SAND GLAY WOOD WATER	98	104	1 .
	Did any stratu contain unusable water? Yes No Type of water? Depth of stratu	GREY CLAY	104	119.	1
	Method of sealing strate off	SULTY TAN CLAY W/WATER	119	132	1
	PUMP: Manufacturer's Name .	SAMON GROY CLAY	136	149	1
	Type: H.P.	GREY SAND	.143	146	1
4	WATER LEWELS: Land-surface elevation above mean sea level A. Statis 16451 168 A. below too of well Date 4/10/05	GREYCIAY .	146	148.	1
1		GREY SAND	148.	153	5
I	Artesian pressurelbs. per square inch Date Artesian water is controlled by	GOEEN CLAY	153	155	i
ŀ	(cap, valve, etc.)	TAN SAND STONE	155	380	N.
ı	WELL TESTS: Drawdown is amount water level is lowered below static level	TAN SILT STONE	780	363	10
Ì	Was a pump test-made? Yes No. If yes, by whom? Yield: gal/min, with 11, drawdown after hrs.	SAND STONE	703	384	1
I	Yield: gat/min, with ft. drawdown after hrs.	SILT STONE & COAL	364	386	2
1	Yield: gal/min, with ft. drawdown after hrs. Recovery data (time taken al zero when pump turned off) (water level measured-from well	SILT STONE'	386	410	7
-	top to water level)	COAL	410	415	0.
ı	Time Water Level Time Water Level Time Water Level	SILT STONE	415	442	~
l		GREY SAND STONE	455	457	
	Date of test	COAL.	457	459	
l	Bailer test gal/min. with fl. drawdown after hrs.	SILT STONE.	459	470	
	Airtest 5 gal /min, with stem set at 500 ft. for / hrs.	SAND STONE W/WATED	470	504	
ı	Artesián flow Bp.m. Date Was a chemical analysis made? Pyes No	27.65		A 05	
L			Dale 4-1		
¥	VELL CONSTRUCTION CERTIFICATION: I constructed and/or accept	pt responsibility for construction of this well, and	its complian	ce with all	
	Vashington well construction standards. Materials used and the information	reported above are true to my best knowledge and		141/-	
	dillessengineer/Trainee Name (Print) JOSEPH NUNES	Drifting Company CAMAND WEN 1	Jean	MG	
	riller/Engineer/Trainer Signature Hangoh Munes riller or trainer License No.	Address 60 BOX 432 City, State, Zip STAUWOOD WA	9829	2	
	TRAINEE	Contractor's	0-1	12-16	
	riller's Licensed No.	Registration No CAMAU WO1A lo R2	Date _ 4:1	200	••
_		I Pagiant it as Fould Changeling Stranlauge	ECV 050-1	- 20 / F - 1 7/13 2 1	